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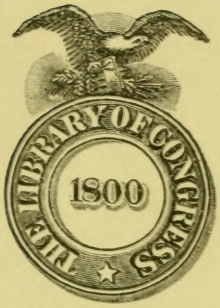

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YOUNG CHINESE DUCKS.

Nature and Its Natural Laws

A Practical Treatise on Poultry Culture for Market and Profit

Poultry Raising on a Large Scale. Cause and Prevention of Poultry Diseases....No Drugs or Medicines Will Cure or Prevent Diseases of Poultry...Nature is followed in Raising Fowls....Fifteen Years Experimenting, and Twenty-five Years of Practical Experience.

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INTRODUCTION

THIS BOOK will help the experts. It is also intended for those who are about to go into the Poultry business as a business on a large or small scale, and for hatching and raising by incubators and brooders for market purposes.

All Poultry breeders have followed a few experts on Poultry and 999 out of every 1,000 failed who followed those so-called experts. Why? Because they really did not know how to instruct the breeders. They themselves could not prevent diseases, could not hatch or raise enough to make it pay. Not one of the experts, professors, doctors or writers of Poultry, etc., made it a special study for fifteen years.

I honestly believe that all experts tried their best, and did not intend to mislead anyone who went into the business. Not one in fifty who have written books on Poultry and who have written articles in Poultry papers were practical and experienced on a large scale. They have tried it in a small way in their back yards, raising fifty to 100 chicks every year, and what they did raise, I dare say were not free from disease, nor did they raise half what they hatched.

There are really only about fifty large breeders who raise 5,000 Ducks and Poultry every year. These make it pay by hard work and at a great expense. If the whole truth were known not half of these fifty can raise over half what they hatch. This is a great loss to breeders and this is the cause of so many failures.

I have bred the so-called Standard Pure Blooded Poultry for many years, and side by side raised common Poultry hatched and raised by hens and also by incubators and brooders. I found that the common every day stock are more hardy, stand more exposure than the fine bred stock.

But, the pure standard fowls can be made just as hardy as any fowls on earth if you only know how, and not one in 10,000 knows how.

Cause of Diseases.

Diseases of Poultry are caused by incubator hatched and brooder raised. In not knowing how, or in other words, no judgment is used, and nature is not followed. Inbreeding, crowding, yarding them, etc., etc., are causes of diseases.

Incubators and Brooders.

The greatest cause of all diseases are caused by the chicks being incubator hatched and brooder raised. Why? Because they have not the right kind of heat and ventilation. The chicks are raised on the hot-house plan, and nature is not followed. There are just two incubators and one brooder manufactured to-day that are as near to nature as can be had, viz: The Axford and the Iowa, and the Natural Hen Brooder, and if directions are followed you cannot fail to raise healthy chicks because they are hatched as healthy as a hen hatches them, large and plump and a ball of down. Also the Natural Hen Brooder has proper natural heat and ventilation and so arranged that the chicks have a free range of heat and ventilation and there are no corners to crowd into. Round brooder.

I have made it a special study to discover the cause of all trouble and failures, etc. The experiment cost me $6,000. I have raised Poultry in almost every climate in the United States from New Jersey to California, from British northwest to the Gulf and I find that Poultry can be raised and are raised in any soil and climate without disease if you know how. Nature is the best teacher. I have built over 100 different styles of houses. I built three houses inside of each other to prevent roup, etc., and still would have roup, colds, etc. Draughts, dampness, cracks in walls, with wind blowing in will not cause roup and colds, if only judgment and common sense is used. A fowl roosts on trees in all kinds of weather, and is the healthiest chicken on the farm. On the other hand, those kept warm and comfortable are subject to all diseases if fed on high rich food, etc.

THE STORM KING BROODER

MANUFACTURED BY

THE NATURAL HEN BROODER CO.

How to make a brooder to use the NATURAL HEN HEATER and FIXTURES, or change a brooder already made to use Heater and Fixtures.

Make the two sides just alike of dimensions given. Cut holes for ventilators, 1" and 10" above floor of brooder, and doors and windows where shown, of sizes indicated.

Make the floor of the brooder 40" square, and put in between the sides. Put on ends of sizes shown. Cut doors for lamp and other openings indicated.

Make box for lamp, so that chimney is directly under heater.

Cut an 8in. hole in center of floor. Nail the collar over this hole. Place the heater in the collar. The mother rests on top of the heater.

Make frame of four lath, and cover with thin muslin. Hinge as shown, resting on the corner plates.

Tack wire screen over ventilator holes on inside and slides on the outside. Tack in corner plates across corners.

Hinge on covers and doors as shown. There is no floor on the ground except for lamp box, but slide doors on each side allow chicks to run under brooder for shade.

When heater is put in brooders of other makes, cut holes for lamp, ventilators and doors to correspond with this plan.

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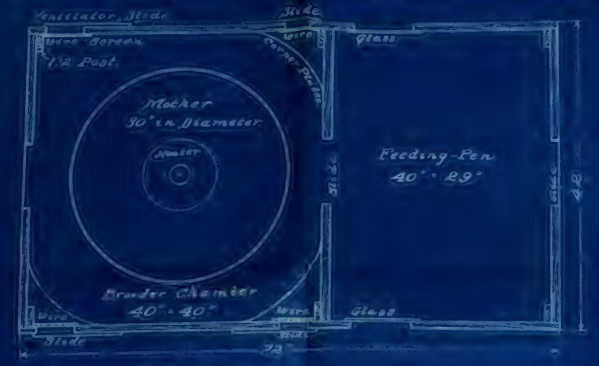
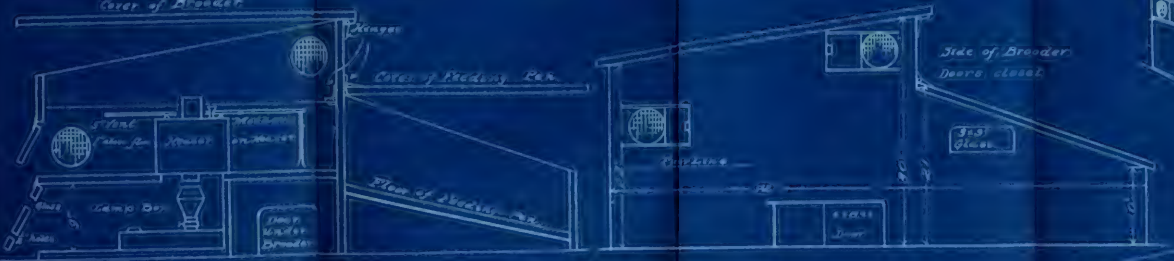
Scale 1 inch = 1 foot

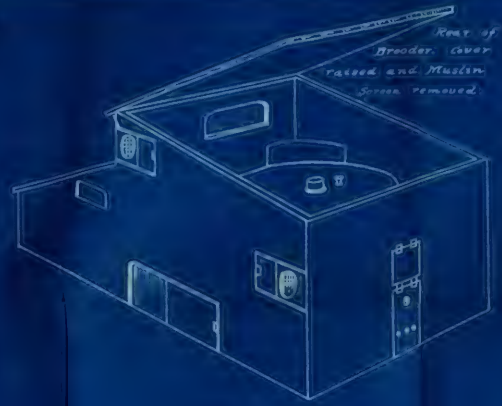


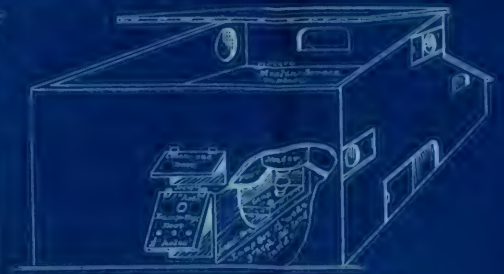
Cover of Brooder

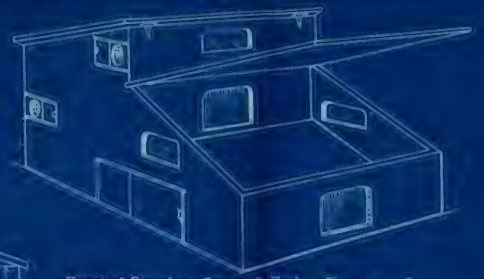


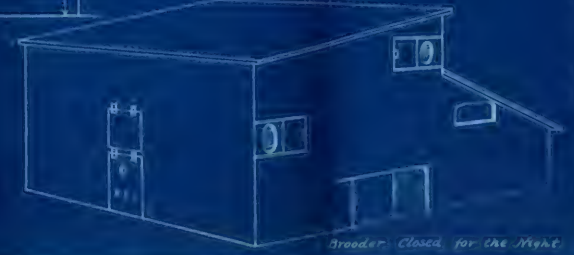
Section of Brooder - Doors open

Floor of Brooder









Feeding is the most important point. I have fed all kinds of Poultry and have tried several hundred different ways of feeding. I have camped out in the west and the wild west. I have watched nature, such as wild and domestic fowls and animals. Seven years of out door life under canvas tents, day and night, summer and winter, and half of the night was spent experimenting. Watching birds and animals during the day time, close watch kept, how they feed and what they eat. My experience tells me that a hen will do 100 per cent better if she is left alone to pick her own feed and select her own roost and have a free range on the farm where grain and cattle are raised. Often she comes home with twelve to eighteen chicks six to eight weeks old. Who fed those chickens, who watered them, who drove them to shelter in the rainstorms, etc? One season I had over two dozen such hens and turkeys come home who stole their nests, and hatched every egg and raised every chick and poult. Why did not these get diseases? Why did they not get chilled, etc., and die? Nature is the best doctor. Follow her closely.

Why do our Poultry have hundreds of diseases now, and twenty to forty years ago, our fathers tell us, they never had diseases. Of course they did not raise 10,000 chickens, as we do now, but they raised from 200 to 2,000 every year. I was born and raised on a New Jersey Poultry and fruit farm thirty-three years ago. When I was five years old I owned my first bantams. When twelve years old I had over 200 fowls of all kinds. I never had diseases among my poultry until I read up on Poultry. When I was fifteen or sixteen years old I commenced to read up on the subject. I got all the books and papers I could, made my own brooders and incubators and in one year I was swamped with trouble of all kinds, roup, cholera and other diseases. They would die like sheep, wagon loads of them every year. I lost money so fast that it got me to thinking; why is it that I have diseases now and did not have when I did not know a Leghorn from a Dominick. I always hatched chicks and turkeys by hens and raised them by hens and

never had any trouble. Now I raised them by a new way, incubators and brooders, and they die faster than I can raise them, and what I did raise got sick and had roup, etc., if the weather changes or the wind blew in a different direction. During this time I noticed that farmers had poor houses and old sheds. The wind and snow blew into the houses, but they had no colds or roup among their poultry. These farmers did not know anything about poultry, never read a Poultry book or a Poultry paper, and did not know that there was anything written on the subject. Some of them afterward bought books and papers on Poultry and from that very time they had trouble of all kinds.

The publishers and editors of the Poultry papers are not in the fault. But those who write for these papers and some breeders of poultry sixty years ago have written books on poultry. These very men found that poultry paid if they were cared for properly. They kept records of eggs laid, commenced to get fine stock, and every year they imported a new breed. They improved their poultry, bred them to a certain color, and now they are so finely bred and inbred so many times that their constitution has been ruined, their blood thinned, and they are weakly, consumptive and good-for-nothing fowls. This is positive proof, as every one knows, that inbreeding is the most terrible undertaking that any person can conceive. I don't inbreed *my* poultry, but you must remember that they have been inbred from ten to twenty times before you ever got your Poultry. This inbreeding is to get a certain strain, and when the color is obtained which they wish, then they breed for shape, for size, for a certain color of eye. Every feather must be just so, and if the feather must be penciled, then they try for ten years to get a feather such as the Standard calls for. Don't you call this inbreeding? I do. This is just what has ruined our Poultry. Then they hatch eggs by incubators and raise the chicks by brooders, and this is another way to ruin the health of the fowls. The hens that laid the eggs were not really sick, if they had been they could not lay eggs. They were weakened by inbreeding, and it is difficult

to raise young chicks of this inbred stock by incubators and brooders that are only fit for kindling wood and made to sell, not to hatch and raise chicks. This you all know to be a fact. An incubator chick is a hot-house plant and can not stand outside air or exposure. In the first place, they are not hatched properly, not the right kind of heat and ventilation and the moisture the hen gives. To prove this, I will only call your attention to this fact. Why do incubators hatch cripples? Did you ever see a hen hatch crippled chicks? Also, if an egg is fertile, the hen hatches the egg almost every time, especially if the hen steals her nest. But just as soon as you test her eggs wait for her to go on the nest and close her nest up tight and the chances are the hen won't hatch every egg. You cannot fool with nature.

An incubator that hatches the chicks healthy and a brooder that raises the chicks also healthy, if the owner uses judgment, can raise the chicks just as well as the hen can. I have done this four years. I use a good incubator and a Natural Hen brooder of my own make. I never have any trouble now in any way. I would have given $1,000 cash fifteen years ago to have known what I know to-day. I don't know it all now by a long ways. I learn every day, by experience only. You may learn or read all your life time how to make gold into money or read how to care for Poultry. You learn nothing by reading unless you have a good book to go by and some experience at least, and the book must be from a practical experienced poultryman.

Do Incubator Chicks Lay Eggs and Lots of Them?

Yes and no. I have experimented for many years on this one particular point. The average number of eggs laid by incubator chickens are sixty to eighty per year. Try it and see for yourself. The average number laid by a hen hatched chicken is 120 to 200 per year, according to the breed. Leghorns are not the best layers. This depends on the breed of chickens. I have gotten 239 eggs per year from White Plymouth Rocks, Rhode Island Reds and Black Lang-

shans. These are the greatest winter layers, that is if they are bred to it, not fancy feathers considered, but for business. The Langshans are all the year around layers and are good mothers, in fact the best; and the Langshans are fine eating, thin in bone and skin, with fine grained, juicy meat. The French like the black fowls best and the French are considered the leaders of the world in cooking. America likes a yellow skin and legs on Poultry for market. This you can get on Buff Wyandottes and Rhode Island Reds. They never have black pin feathers at any age and are always ready and the right size for the market. A private family wants a fowl that weighs about five pounds dressed, plump and round, not all legs and bone. When it comes to an all around business hen, nothing beats a Rhode Island Red or a Buff Wyandotte. Black Langshans come next, and for layers are the best.

For Market Poultry.

Don't keep more than one breed of fowls. You don't need to fence yourself poor with poultry wire, yards, etc. It will pay 100 per cent better to keep only one breed, and they are not one-fifth the trouble and cost in starting. For market and eggs you will not have any diseases if you keep your poultry for market only, but if you go in for fancy show stock you must in-breed to get the fancy points, and to win in shows. For market I would use the following fowls: Rhode Island Reds, hens and pullets. They lay the most eggs with the least care and feed. They were raised for 100 years for market and eggs, and like range cattle rustlers, they help themselves. But you must give them range, and you need not have separate pens and yards for market Poultry and eggs.

How to Start.

Buy eggs or pullets from a breeder who raises Poultry for market and eggs. It depends on your money how many to get, 100 to 1,000 hens and pullets. The hens should not

be over one and one-half years old for layers. Pullets are the best layers. If you have a farm, build small houses twelve foot long, twelve foot wide, eight foot high in front and six foot in the rear, with open shed to the south. These are for spring, summer and fall use. Put fifty hens and two cockerels in each house. These houses must be 100 yards apart and on a colony plan. No yards are necessary. Train your hens a few days to let them know where to roost and they all will go to their own house and not all go in one. An open south front house is the purest and healthiest house to keep Peultry in. See Blue Print on how to build it. Fresh air every day in the year is the best doctor for all fowls.

Don't Make a Hot-House Plant of Your Poultry.

Don't fuss with your fowls. Give them free range. You positively cannot make it pay yarding them.

Now about cockerels and cocks. If you have Rhode Island Reds hens, pure, the first year use Rhode Island Reds cocks and cockerels. Next year use Buff Wyandotte cocks and cockerel. Next year Buff Rock cockerels. All these have a sprinkle of Rhode Island Red blood in them. Then the next year use Buff Leghorn cockerels to twenty-five pullets or hens. Then the next year use Rose Comb Rhode Island Reds. Always buy your new blood cocks from a different breeder and you then don't in-breed one chance in a hundred. You will have better and healthier Poultry; all will be of one color and size and they will be the best layers to be had. But for fancy and show you must keep them yarded to keep them pure. But don't in-breed, also give them a very large yard. A dozen in a pen and a yard, 25 by 150 at least.

Cattle, hogs, horses, poultry and birds in a wild state are not cared for in any way, they help themselves and are hardier than any of the domesticated animals. When I was out in the far west in different states and climates, I saw wild animals, cattle, horses and sheep have their young in the snow, cold and windy, no shelter, etc. I have never

seen a horse sick, nor a cow, when raised in a wild state. This is bred into them for years. Ranchmen used to buy and import pure blood Jerseys, Holstein and Short Horn Bulls to improve their stock, but not a quarter of them would live through the hard winters, with no shelter, no hay, etc., and not being used to it. Finally they bought cows of pure blood and had them bred to pure blooded stock. The young stock was born there and from the first day had to put up with roughing it and they got used to the climate, and conditions. They did well and picked their living the same as the rest of the native stock. Now, if those fine pure blooded in-bred cattle were housed in a warm house and all kinds of feed and fancy food and side dishes given them they would surely get sick and not do well. In fact, most of these finely bred and kept stock are delicate and thin blooded. The best and only way to get strong healthy stock is to cross them.

So with Poultry, you must cross them and not with any old thing, but keep one color, either all Buff or all White. Use different breeds. Never use a black cock to white hens or a white cock to buff hens. Always keep the same color, either buff or white, so when you sell for market they are all one color and you then get from three to five cents more per pound, and then you can also sell eggs to broiler men and to farmers, for this is just the kind of stock they want. They don't want fancy lacing and show points. They want practical business Poultry. The year 1900 government statistics show almost $500,000,000 made in Poultry and eggs and over three-fourths of this amount is made by farmers. Eggs are figured at six and eight cents per dozen and poultry ten cents per pound. This is the average price farmers get for their Poultry and eggs. The Poultrymen who make a business of Poultry get on an average of twenty-five cents per dozen for eggs and fifteen cents per pound for spring chickens to private trade, and if they could raise all they hatch there would be 100 per cent in the business for the money invested.

How Wild Turkeys and Prairie Chickens Raise Their Young and How our Domestic Turkeys and Hens Raise Their Chicks if They Have Their Own Way.

I have watched wild turkeys and prairie chickens, etc., for years, when I helped to trail a bunch of 4,000 head of cattle from Texas to British Northwest Territory. I have seen hundreds of wild turkeys in Indian Territory along the Cinnamon river about the middle of May. We had a bunched lot of cattle: we could make but a few miles a day, as they were cows, calves, steers. etc., and almost every day in that month we had fifty to 100 calves born to care for. In the evening we would go gunning for turkeys. We would watch where they would roost and on a moonlight night would get the turkeys between us and the moon and then shoot the gobler and the hens. The hens with young poults would not roost on the trees, because the young could not fly. These we could not see but would hear them flutter away and hide under the grass, etc. We spent two weeks in this turkey country and I noticed dozens and dozens of young turkeys. It was a very cold and damp spring, and to see fifteen to eighteen young poults was nothing unusual. These turkeys had their young out in all kinds of weather, and wet grass when we would see them. They were all ages, some looked to be twelve weeks old, others only a few weeks. Who drove those turkeys out of the rain and who fed and cared for them?

Poultry breeders, note this, and you will all admit that it is a fact. Breeders kill their Poultry and turkeys by overfeeding them and not giving the right kind of feed. They raise them on the prison or on the hot-house plan. In fact they are prisoners. You will never raise a turkey nor a goose unless you give them lots of range and let them pick their own feed and roost. I have not tried this once, but fifty times or more.

A wild turkey hides her nest, lays fifteen to twenty eggs and when these young are a few days old she takes them out for food, foot by foot. No one ever chases them, no one

bothers or worries them and they don't get lost. But if you should scare them, half of them would get lost. Now, the old hen picks seeds of grass, calls the poults and finally the young pick their own feed little by little, until at night they have a crop full. They are not fed fancy food and dosed with other truck, which is sure death to turkeys. I have not feed a young turkey for eight years and never raised more turkeys in my life than I have during that time. Before that time I lost almost all. I watched them day and night, fed and housed them with the greatest care, but they would hang their wings, get lousey, and if I handled them to get rid of the lice they would die in spite of me. They want liberty. This last summer I raised seventy-two turkeys. I never fed them. In fact they could not get anything to eat at the house. They hatched out in the woods, lived on seeds, grasshoppers, and the like. They went through a dozen heavy rains and the damp dews and they all lived. I know that if I had kept them at home, yarded and fed them, they would have all died. In the spring I set twenty-eight turkey eggs under hens. Almost every egg hatched, but before they were five weeks old over one-half died and I raised only seven out of twenty-eight. I gave them the best of care and used common sense in feeding, etc., but it was of no use, they died.

I remember a Black Langshan hen bringing home sixteen chickens about eight weeks old, hatched and raised in the woods and never fed. Almost every year I have had one or two hens come home with ten or twelve chicks. Better and healthier chicks could not be raised by any man with the best of care.

Geese are the hardiest Poultry we have in the world, but if you try to raise them in a brooder house you cannot raise one. A goslin must have grass to eat and be out in the free air and range. It will live on grass alone, and will seldom eat anything else the first week. A goslin hatched, is a goslin raised, and they do not want much mothering except on very cold nights.

Geese and turkey farming is the easiest and best money

making branch of the Poultry business. They require no feed and very little housing. In fact I never house turkeys in winter, and never have roup among them. For the geese you need only a shed with straw and hay, they eat hay like a cow and old rotten stumps. Once a day I feed China geese corn and a little ground feed, grit and water. Turkeys in winter I feed a little oats and corn. I never have fat fowls and my stock always lays lots of fertile eggs. Fat fowls don't lay fertile eggs, but hens must be in good flesh. Ducks and turkeys also, but not too fat. Have you not seen poor children running barefoot in late fall and early spring and also poorly dressed? These children seldom get sick or have a cold, they are used to it and brought up that way. They live on common food and not in a steam-heated house, kept up to 75 or 80 degrees. They sleep in a cold bed room and they don't eat cake, pie and pastry of all kinds, but their meals are potatoes, old dry bread, not hot buscuits or fresh bread before it is barely cool, meats, gravies, etc. All this is not good for children, and the worst thing is tea and coffee for children. It is not good for grown people. I have not had a sick child in my house and never had a doctor in the house. If a child has a little fever I don't give them anything to eat until the fever is gone. You can kill a fever by starving the system a few days in human beings or poultry. If it is a cold, I feed the cold, and give the children hot drinks of tea. American children are raised on the hot-house plan in a temperature of 80 degrees and fed on high stimulating foods, pastry, and the like. The parents won't let them out to play in the fresh air. These children are often sick and always have their family doctor, year in and year out. On the contrary if they were let out doors to play every day in the year, sleep in a cold room, their bed room aired every day and they were given plain food, they would not need a doctor and would be happy and healthy. This applies to poultry as well as to human beings and stock of all kinds. If you are used to a temperature of 75 to 80 degress in your living rooms and bed rooms, you are more liable to catch cold than if you were used to a room of 60

degrees or colder. When you make a change, make it by degrees, don't do it all at once.

Now take it in the dog business or kennel as it is called. They read up on how to feed dogs. Then they feed them all kinds of truck and finally the dogs get sick and die. If they would stop to think, other dogs running around never get sick and very seldom die while high blooded dogs die like sheep. They feed on meat, every day in the year, dog cakes, and a dozen other things. They feed too rich food, not enough exercise, and are too finely bred, while a common dog picks up any old thing. In fact, there could be raised lots of fine blooded dogs and poultry that would be just as healthy as any other animal or fowl, if only common sense was used and if they would only stop to think and wonder why the dogs and poultry of their neighbors, who don't read up on pure blooded stock are not sick. The greatest trouble nowadays is, they study too much on how to get best results, and at the same time they ruin the health of their poultry by high feeding and improper food. Some common people nowadays are beginning to think a little, for instance coffee and tea is the worst poison a person can take if they drink three or four cups a day all their life. Government soldiers are not allowed to drink either coffee or tea. It makes them nervous and causes headaches and indigestion, heavy feeling after a meal, and the consequences are they are not fit to handle a gun, nor march, nor exposure to all kinds of rough life. During the English and Boer war when the Boers were captured, they were put in prison and shipped to an island 300 to 1,000 in one shipload. Some of them died and most all were sick. This was because they were crowded in poorly ventilated rooms. Their food was different from what they were accustomed to, and while before they had always been accustomed to outdoor life, with the free fresh air to breath. This is the reason, nothing else. You have no doubt noticed the following, when you had Poultry shipped to you in the fall or winter they had caught a cold, roup was the result and they died. The cause of this is, from my experience, the Poultry were used

to an outdoor life and their houses were at a temperature of 40 degrees or even the freezing point. They were boxed up, put in an express car, near a stove 80 to 90 degrees of heat, then dumped off at some station where it was below freezing, onto a platform for three or four hours. The sudden change causes it. This also applies to taking Poultry to a show. They are kept in a room or hall for a week in a temperature of 70 degrees and then shipped home in a temperature of zero or lower. They are also fed three times a day in the show room. This causes a distemper. They don't get the outdoor air nor exercise, and in fact poor judgment is used. They really ought to be fed only once per day, at night only, and very little at that, and they should not be shipped out of a warm room into cold zero weather. Take the birds and prairie chickens, they are out in all kinds of weather and get used to it. They don't have sudden changes, and have to look for their food, it is not taken to them. They live and breed and are the healthiest of all fowls. I remember well when I was married eight years ago, my father would not go to my wedding because he had three Jersey cows coming in about that time. He said "I must be on the watch and give them warm food, keep the stable warm, blanket them, etc." But with all his good care one cow died. I was married only about 100 miles from home, but he could not spare the time for the trip. I told him this. "In my time I have seen cows have calves in the snow and in mid-winter at that, and healthier cows and calves I never saw. They would kick up their heels and run around like deer." Cows, horses and poultry of all kinds can be made just as hardy if you start right from young on, not to do it when they are matured, but when they first come into this world. I have done it for eight years, you can do the same if you only read this book to the letter instructions. Farmers who don't know anything about Poultry have the healthiest chickens. Why? Because they have no time to bother with their hens, they let them roost in trees or sheds, and very seldom have a sick chicken. Sometimes they have cholera among the hens. This is caused by

feeding corn in hot weather; the hens are too fat, and with the hot weather cannot stand it. Cholera is nothing else than over feeding stock in hot weather on fattening food. They get diarrhoea, yellow and then green, their combs turn black, they drink themselves to death to cool off. The reason they drink so much water is that they want to cool off their insides, as they fairly burn up, their droppings almost boil, turns yellow, then green and they die by the hundreds.

Poultry in Summer.

Poultry in summer should not roost in the house. An open shed is the best thing for them. In the fall don't take them from the open sheds and put them in a warm, closed house, but leave windows and doors open to the south. When it gets so cold that the ground freezes, then only close the houses at night, and leave open during the day. Don't have any top ventilation; this is all foolishness, and is not natural. Poultrymen have made a thousand mistakes. Don't use drop boards; the very idea of having drop boards six inches under the roosts! The fowls have to breathe the smell of the manure all night long. This causes consumption, weak lungs distemper, fever and other sicknesses. Do wild birds have drop boards? A wild bird or a turkey roosts away up high and the smell of the manure never reaches them.

Another mistake Poultry writers have made is feeding mash foods to Poultry, and all kinds of rich foods, stimulating them to make them grow, to make them moult quickly, and to make them lay lots of eggs. They are only killing the hens by doing this.

I want to call your attention to another fact. If you only stop to think, a fowl or bird has a gizzard. They grind their own food by eating sharp stones, crockery, glass, etc. Now, if you feed mash food, the gizzard cannot grind it, because it is already ground when the chicken eats it. Now then, the food merely lays in the gizzard a few hours and passes out. In the meantime the gizzard has been idle, and the gizzard should be kept busy grinding to keep the fowl

CHINESE BREEDING STOCK.

healthy. It is the engine of the hen or chicken. If the gizzard is idle the rest of the machinery is idle. Feeding mash food is the cause of indigestion. They eat all the crop holds and then lie around and do nothing until the next feeding time. Meat and other highly rich foods are sure death to poultry, if they get too much. Poultry writers say that the chicken gets worms and bugs when on range, so that we must feed meat to hens that are yarded up. Poultry on range get bugs and worms, but the bugs and worms are 90 per cent water and only contain about 8 per cent nutriment and other ingredients. On the other hand, meat and powders are 80 to 90 per cent nutriment and are too rich for poultry to be fed every day. Once a week, and a very little to each chicken does not do much harm, or one pound of green bone per day to one hundred hens. Only a few years ago another mistake was made in supplying moisture in incubators. They find that they were wrong and now have no moisture. Some of these professors have seen a hen hatch every chick in a hay loft; the weather was dry; it did not rain for six weeks. Why did these chicks hatch? Now they claim that they have it O. K. Well, to that I will say, one incubator has it almost right and near to nature. They use no tank: instead they use a heavy woolen cloth; this is the Axford incubator. I am experimenting on an incubator and have been for ten years, but will not put it on the market until I get a natural heat, and one that will hatch every egg that a hen can, almost on the same principle as my brooders.

They say you must heat up a house to get eggs; also heat up a brooder house to 70 degrees. This is sure death and sickness to fowls. Just as soon as you heat up a house to more than 50 degrees the air is not fresh, nor is it healthy for the poultry or chicks; and if you let them out doors to get fresh air and exercise they catch a cold. I never heat up a poultry house nor have a brooder house warmer than 45 degrees in winter, unless the sun warms it up to a higher degree. This is natural. A chick is not a hothouse plant, nor is it natural for young chicks to hatch in winter, nor

can it ever be made to pay to raise chicks in December or January. February, March, April or May are the proper months, and before and after that time the eggs are only 50 per cent fertile, and only half of them hatch, and it does not pay. If you want to raise broilers for profit, you should hatch during the first part of February and March and run twenty to forty 300 egg capacity incubators, and have proper brooders, that will keep a steady heat day and night. A hot water pipe system never did nor ever will raise over one-half of the chicks. There are a hundred drawbacks to a hot water pipe system, and the expense is so great that it cannot be made to pay, if work and expenses are considered, and the chicks raised. Get a Natural Hen Heat Brooder system.

Hiring a Man.

Always try to get a married man. When he has his family on the poultry farm he will be steadier and attend to business day and night. Six months in the year a man must be on duty every hour of the day, Sundays and every other day. No picnics or theaters can be indulged in during hatching time. It does not pay to hire half a dozen men to run a poultry farm. Labor eats up the profits unless you have lots of capital and go in on a large scale. There is more profit in Poultry if you do your own work, and it will pay you 50 per cent on the money invested if close attention is paid. But you can, on the other hand, lose more money in the poultry business than in any other business, if you don't start right. Don't be afraid to get the best incubators and brooders. It pays. If you buy cheap traps you will fail. Follow nature as closely as you can, and with this book you must have success, if you only follow the directions given. As you read this book make notes in your memorandum book and read it often.

Inbreeding and the Results.

Wild turkeys are in bunches of twenty to forty and only one gobbler. If more, the strongest and best fighter kills

all the others. Therefore there is no chance for inbreeding Sometimes a gobbler will come from another bunch and kill the leader and take all the hens with him. Now, only the most vigorous. strong and healthy gobblers lead the flocks and they are not inbred. If any are weak the leader kills them. Notice a turkey hen or gobbler if he sees a sick chicken about the place he will kill it every time. This is their nature. Now, if all chickens, turkeys and other fowls were killed when sick, there would be less weak stock, and more healthy, vigorous breeding stock.

Wild horses and cattle are the same as turkeys. They kill the stallions and bulls. Only one leader is allowed, and when a leader gets old and loses his strength the other leaders come into the bunch and kill off the leader. Now this I have often noticed in the west. So you can see that there is no chance for inbreeding. If you are bound to raise show birds you can get good, fine points. feathers, laying and market qualities by line breeding. getting new blood for the hen side and keeping a cockerel from the hen you bought for new blood. Never get a cockerel for new blood if you are breeding for show purposes; if you do you will be disappointed; you loose ten years by so doing.

Pure blooded stock are the best if only common sense is used. Never inbreed nor breed from sickly stock, nor from one that has ever been sick. When buying new blood be sure you are buying from a new strain. Never get of the same strain; if you do you will inbreed just as sure as shooting. I have black Leghorns that are just as good as grow; in fact they hold two world records; no better layers ever cackled, for winter and all seasons, and never have been beaten in a show-room in the largest shows in the country. I have never inbred once in the same line of blood. My birds are always looking for a fight. This shows vigor and a healthy stock. I never kept sickly poultry and never intend to.

The Cause of Roup.

This is the greatest drawback among poultry breeders. Cold, catarrh, swollen eyes, etc. All writers on Poultry claim dampness, draught, etc., causes it. This is a mistake. If you want roup among your fowls, fall and winter, feed them all the meat they will eat every day for two weeks, fresh meat from the butchers, and also feed them on rich foods of all kinds, and you will have roup in ten days. In the summer it affects them differently. They will then get liver diseases and indigestion. In winter, if fed on rich foods, they get a high fever, 106 or more distemper sets in, their heads get very hot. This is very dangerous, and if the fowl should get over the high fever, they generally get poor and grow light, all feathers and bone, and the lice will soon make quick work of the remaining meat and blood. If roup ever gets into a flock, it means a lot of dead ones, especially if the roupy bird smells very badly. I have seen thousands die of roup. This means a great loss, and is one great reason why those failed who went into the poultry business.

How to Prevent Roup, Colds, Diphtheria, Catarrh, Swollen Eyes, Etc.

If common sense and judgment is used in feeding and housing you will never be bothered with roup or colds of any kind. Wild birds never have colds and our birds are nothing but wild birds domesticated. The first hen was a jungle fowl and has been bred up until now there are over 150 different breeds of pure stock. Above all don't breed from any sick stock. Never keep a hen around that is sick, and never in-breed. They have been in-bred dozens of times before you got them, so don't you do it again. Now in feeding Poultry, feed only what grows in the field, in the way of grain, seeds, etc.

Above all build common sense houses. Housing is of the greatest importance. A wild bird lives out doors every

day in the year, in all climates and weather, and always has free range, so notice what I say about free range. Don't lock them up. Give them liberty, don't make prisoners of them. They never will do well nor lay half as many eggs nor half as many fertile eggs if kept fenced in.

In this book you will find blue prints of poultry houses of my own plans, and if these houses are used you will find them cheap and healthy for Poultry. These plans cost me a lot of money and time and are a matter of twenty-five years experimenting with all kinds of houses. I have made hundreds of different kinds of houses and find these the best.

Feeding to Prevent Disease.

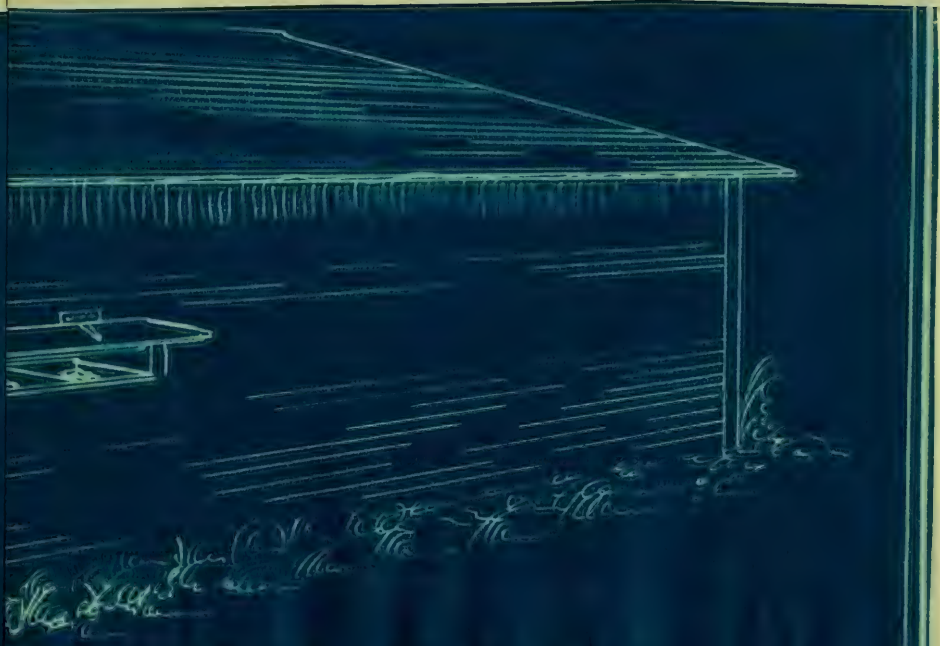
In winter, say December. feed in morning wheat, one handful to two birds, in straw, at noon a little cabbage, whole heads and at three o'clock feed them corn, one handful to two birds. Next day oats in the morning and at noon feed barley, at night, corn. Every day feed a different kind of grain; that is, don't feed corn all the time, nor wheat every day, but three times a week, in other words feed a variety. Onions every other day cut up. As to mash, don't feed much of it unless you want sick fowls. Once or twice a week at noon feed oats that have been soaked in hot water half a day. Pour off all the water, then mix bran and ground food with the oats, this makes a dry crumbly mash, not hot and the gizzard will have a little grinding to do. If all the food was ground the gizzard would be idle and the fowl would overload its stomach by eating too much. This would cause a disorder, indigestion and fever will start, and finally roup and cold. Don't either starve or over feed them, but keep them in goodflesh,never feed powders or medicine. Feed fresh cracked bone twice a week and one handful to twenty-five birds, not meat but bone. A bone cutter will be of great help. Humphreys Bone Cutter is the best, easy to work and cheap. If you want to feed meat boil it first then it will be good, otherwise it is dangerous. Also always

keep cut clover hay before the Poultry. This is what Poultry want. A cow or horse could not live without it, nor Poultry keep healthy. Notice hens in spring. They will almost gorge themselves with old grass. They want something bulky, and clover hay has lots of lime in it to make eggs. Don't forget this clover, green food and grain of all kinds and cracked fresh bone and water, blood warm in winter and milk. If you have pullets early hatched and of a laying strain you can get twenty-five eggs out of every 150 fowls every day in the winter and in the spring you will get seventy-five.

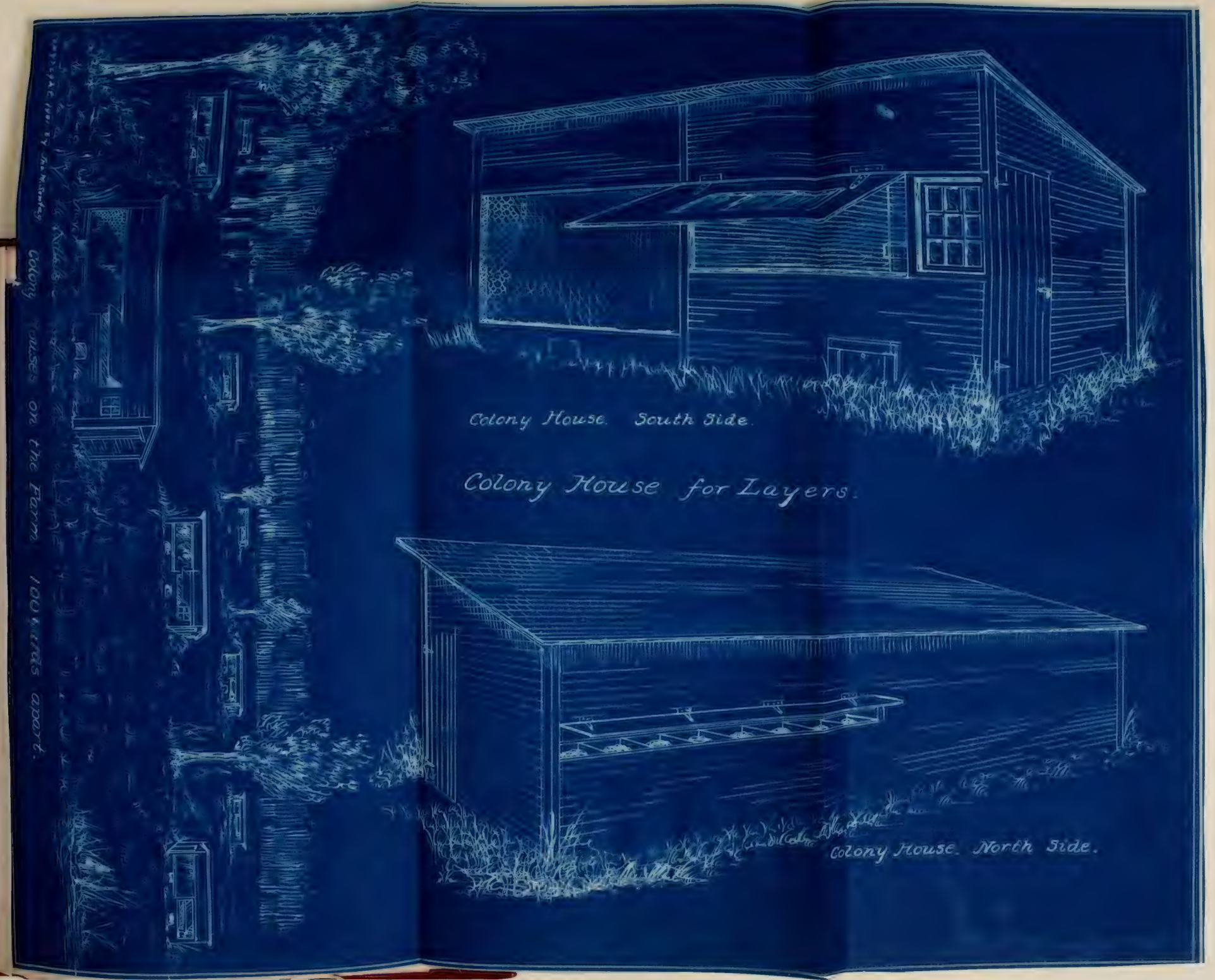
Have your house front south and let them out every day, or if too stormy open the windows if not too cold. Fresh air and sun are the greatest health preservers we have for all living beings.

A dust box in front of every window in each house will do a great deal for health. They dust themselves to keep clean the same as we take a bath, whether they have lice or not. A little air slacked lime thrown in every house will sweeten it and prevent dampness. It is also one of the best disinfectants we have. Poultry also like a box of coal ashes, it makes them lay, makes their combs red and is as healthy as charcoal for them. They get lots of egg forming food out of the ashes.

Ventilation is not necessary. Never have a ventilator in a hen house. The best ventilator is to keep the house clean, that is, clean out the manure and don't crowd too many in one small house, Never use drop boards if you can help it, unless you clean them every day. If you have drop boards keep the boards about three feet away from roosting poles, then the fowls won't breathe in the foul air all night long. This is very dangerous and causes consumption. The best way to air a house is to open the windows every day, closing them as night. Don't close house up tight in mild weather, but keep the window open a little, and from April to Thanksgiving day keep all the windows open and let in all the air possible. and then in hot weather keep houses a



Colony House. North Side.


Colony Houses on the Farm 100 yards apart.
Colony House. South Side.
Colony House for Layers.
Colony House. North Side.

little dark, that is, don't let in the sunlight in the houses all day long. A dark house is cool in summer.

Spring and Summer Care.

In early spring give them free range and don't house 200 to 1,000 hens in one bunch. Keep colony houses all over the farm, 100 to 200 yards apart, the latter is better, then they will not run over the same range, nor will they all go in one house. The house shown in blue print is twenty-four foot long including scratching shed. This will house fifty to seventy-five hens easily if on free range, and they will do better than 300 hens yarded up in pens. Try it. Outside of house keep a dust box covered with boards so that the rain cannot wet the dust. The box should be 4x4 feet and 8 inches deep. Common clay dust is the best with a little air slacken lime in it. In very hot weather you must see that the hens have shade.

Spray kerosene oil all over the house, roosts and sides, to kill the lice. You will find them under roosts, poles and in the cracks. Every two weeks spray gasoline over the fowls. Gasoline is the best, surest, safest and cheapest lice killer to use. It never hurts them in any way, but don't have a lamp or lantern near the house when spraying.

Thousands of fowls are killed by lice, especially in the fall, when the hens are moulting. They are weak then and you will always find lice on them, under the tail feathers and all over them. The body lice, those long, large yellow ones, will kill a hen in short order when they are moulting. Sometimes a cupfull of lice are on one hen. Now just imagine one hen louse on your head. The lice prevent the hens from moulting, laying, etc. So keep off the lice.

A rooster very seldom takes a dust bath, so spray him often with gasoline, as the rooster is the most important of the whole flock, especially during the breeding season.

Keep three cocks or cockerels among fifty to seventy-five hens; they will not fight when on range, and each rooster

will go on range with his little flock and thereby he will have different hens every day, and then you will get fertile eggs.

During the moulting season feed the hens cabbage, sunflowers, milk and fresh-cracked bone. This will make them moult early and make the feathers grow. If you have a cockerel you want to show as a cock in the shows, pull his tail feathers out in September. This will make his tail feathers grow out and be matured when shown in the winter. Thus you will score two points on tail; this goes a great way toward winning a prize.

Be sure that your hens are free from lice. If you see a hen with a look on her as if she was starving, she is lousey. If the cock has glassy eyes and rough looking plumage, and generally drags his tail, the lice are eating him up and drinking every drop of blood in the bird. Take care of them in time and don't wait until it is too late. A stitch in time saves nine.

Cholera comes in the fall. The cause of cholera is that the hens are too fat. Corn will do it quicker than any other thing, so don't feed corn to hens in summer. Once a week is plenty. Oats, wheat, millet and free range is good for them. Always keep lime in the water on hot days. Grit, sharp stones pounded up; buy mica crystal grit, or common crushed stone No. 1; such as is used on the streets is good.

Hens on a range in the fall wont need much grain or food: they will find lots of bugs and grasshoppers. One feed a day of oats and wheat screenings is plenty for hens on a free range. Always keep lots of fresh water in a cool place and clean out the pail every day.

Nothing is better than cabbage for hens in the fall. I throw one head of cabbage to thirty hens every other day, when they are moulting, and all the skimmilk they will drink. When on the roost at night in the hot summer weather, keep one side of the house open, with a wire front and if any dogs or two-legged animals are around lock the door, and they will still have plenty of air, as the east side is all open except for the poultry wire. This will keep out

skunks, minks. etc. If you leave an opening about 8x10 inches, five feet from the floor, the hens can all go out at four o'clock in the morning, while you are still sleeping. You will find the hens out looking for bugs and grasshoppers, which are easy to catch, as the dew makes the grass and their wings wet, so that they cannot fly.

Corn is the best food for chickens if you know how to feed it, and when to feed it, and how often. The feeder must use his judgmeut. I personally feed corn, cracked, nearly every day in the winter and spring, but very little, and sometimes none at all, for a month in hot weather. Corn makes strong, fertile eggs, and you will find the yolk a a rich yellow color when you feed it. If your hens show loose yellow droppings and are drinking all the time, feed them nothing at all for a week or more. Put lime in the water, feed cabbage, no grain at all, but lots of grit. The lime, if stirred up, makes the water white, and sweetens the water, and prevents looseness of the bowels. You will notice that a fat hen gets sick first, and if not careful the whole lot will die of cholera; in other words over-fat hens cannot stand hot weather, and it will kill them. Therefore don't keep your hens hog fat and don't feed them too much corn. In fact, don't feed any corn at all during September and October, then feed them all they will eat every night.

While hens are coming to moult. and are two years old, sell them, keeping only the pullets, unless you want a few hens to breed from. Hens are better breeders than pullets if you want strong, healthy stock.

Fall Care.

About November 20 the hens should all be sold except a few of the best stock, held over for next spring breeders, Pullets are the best winter layers, and twenty-five out of every hundred will lay every day during the winter. When it gets so cold that the ground freezes hard move all the colony houses near the house or some place where it is handy

to feed and care for the stock. All the houses should be so built that they can be moved out in the field in early spring and back to the house in early winter. This is the cheapest way to make the Poultry business pay. If you build long houses, say one hundred to three hundred feet long, all in one, it costs a lot of money to build it, and the fences are another high cost, and it will never pay. When I see a plant going up with a long house for market purposes, and a lot of money put in fences, I know it will not pay, and ninety-nine out of every one hundred fail. Just as soon as you imprison your fowls you will never make pay. Now, why the long houses and fencing don't pay is a matter of many years experimenting with me at a very high cost.

Why Long Houses Don't Pay.

1. A long laying and brooder house is too costly, and if yarded only twelve to fifteen hens can be kept in one pen. 2. The fencing costs as much as the lumber for the house for one pen. 3. The fowls will not lay as many eggs as if they were on free range. 4. The poultry are not as healthy when yarded. 5. It is not nature for poultry to be yarded. Poultry want free range, the same as the birds of the air. All around, it never pays to yard them.

How to Make It Pay....Free Range and Liberty....Colony House Plan....For Market and Fancy.

A colony house costs only half as much as a pen house will, and a house 12x12 with a shed attached, will house fifty hens easily and not be crowded. Why? Because they are on free range all the time and you can put four times as many in this style of house. They lay better and do better all around. No fencing is necessary, and you can move the houses when and where you like with little cost, where a long house never can be moved. A long house is very

WORKING HOMER PIGEONS.

CHINESE GEESE.

unhandy, and plowing is out of the question. The yards should be plowed at least every two years, and as the fences are in the way it cannot be done, and to do it with a spade is a waste of time and money. The manure in the yards should be plowed up. Now, with the birds out in the range in the colony houses, the ground does not need to be plowed, as they are very seldom about the house, and the manure is scattered all over the range. The yarded fowls must take their medicine. The ground in the fenced yards is full of manure and germs, which cause sick poultry. One reason why wild birds are never sick is that they are always free, and seldom are on one place a second time.

There is no use trying it. It will never do to fool with nature and if you do it it will cost more for the experiment than you will ever get out of it.

The Colony House in Winter.

In winter the houses should be double boarded inside with building paper between. Never use tar paper as it draws the frost and you will have your houses white with frost in the winter if you use it. It is not good for this purpose. Don't try it. If you have fifty birds in these houses their own animal heat will keep them warm in winter at night and in the morning let them out in the scratching shed, open to the south. This gives them air, sun and exercise, and keeps them out of the snow and the rain cannot wet the straw. You will be surprised to see how many eggs your pullets will lay in this style of house and the small cost and labor of caring for them. On the floor of their houses use about six inches of cinders and then gravel over this, then a few inches of sand over the gravel. This makes a dry floor and rats will not work into the cinders.

Ten colony houses will house 500 fowls and should not cost more than $20 each, including the scratching sheds, or a house with shed, 12x24. A long laying fancy breeding house will cost $1,000 to house 500 hens. You save just $800

in building alone to say nothing about results, as to profits and healthy stock. Another thing about these colony houses, it takes just half the time to care for the Poultry as it would if you had the long houses. In a long Poultry house there is a draught unless you board up tight every pen to the roof. A 200 foot house is dangerous in case of fire or contagious disease, but some have these houses 1,000 feet long. Now I have seen over a hundred fail in this style of house because when a contagious disease like roup or cholera got in the house it was all over the house and every one of them got the same disease and all died. Now if a contagious disease breaks out in one of these small houses you would not lose many as each house is separate from all the rest. Now reader, don't you think there is something in in that? It is my experience, at least. If you are going in the market business don't waste time and money in building fancy houses and yards and make people believe that you are in the fancy Poultry business by having separate yards and a different breed of poultry in every pen. This will soon fade away. If you want a few show birds, pen them up, say six in each pen and give them 20x150 feet of yard room and you will not be bothered with disease much. But it costs too much to fence and house 1,000 or more hens in this style.

The Causes of Failure are Many.

One principle cause is that the right kind of judgment is not used, for instance a man will take a piece of paper and pencil and figure like this. My ten hens layed 200 eggs per year, and each hen netted me $2. Now 1,000 hens will net me $2,000 cash, clear profit. But in doing so they never look ahead and use common sense. Ten hens had the run of the farm and all the room and bugs, grasshoppers and worms they wanted. They layed well and raised fifty chicks or more. Now, this man figures 1,000 hens will make him $2,000 cash. I will go and get 1,000 hens,

build a long poultry house, fence them in and I am O. K. But he finds, as many others have, that crowding, fencing and yarding Poultry is not a success, and he fails. A hundred diseases get at his stock, they did not lay, and he quits in disgust. But if this man had given these 1,000 hens the same chance those ten hens had, he would certainly have made it pay. In other words, he should have put them out in the field in colony houses 200 yards apart in the spring, and so arranged that the 1,000 hens would not range over the same ground. For instance, you have a Poultry house near your barn. Keep, say 100 hens, and those hens will range over the range every day on the same ground and go back at night and roost. If you had a large house, the chances are poor for each hen getting a full crop of bugs and worms, and not only that, when roosting in a house full of 200 hens it is not healthy because of so much manure and bad air. Breathing in the same air causes disease. They sweat all night and on coming down in the cold morning air catch colds. Now, if the hens are divided off into small lots all over the farm they are not overrun on the range nor over crowded in the houses. If the sheds are open on one side the air is always pure and sweet and the birds have all the room they want on the roost and do very well both for eggs and for the market. If I could convince a wealthy man that this colony house Poultry farming would pay and he would invest $10,000 in a farm and plant, and stock it up, I would manage it for half of what there was in it any time, after it was well started. This pays better than fancy Poultry for show and for breeding stock by far. If you want to go in for the fancy business it takes ten years of advertising, at a cost of $5,000, then another $5,000 for house machinery, etc., and $3,000 for fancy show stock; hire an expert at $75 to $100 a month and pay $50 to $100 at every show for entrance fees, and with other expenses there is very little money in it after all the expenses are paid. You must also spend a large part of the night writing letters to those who want eggs, stock, etc. I have been through it all, and

know just what I am talking about. If you are well advertised it pays, otherwise not.

Market Poultry Pays.

It always will pay. In the year 1900 $500,000,000 was spent for all kinds of Poultry, ducks, turkeys and geese, and eggs. And still this country had to buy abroad. More money is made from Poultry than from wheat. More than from corn, horses, hogs, gold, silver or iron. The only stock that has beaten Poultry is railroad stock. This is a matter of government statistics. Look it up and see for yourself.

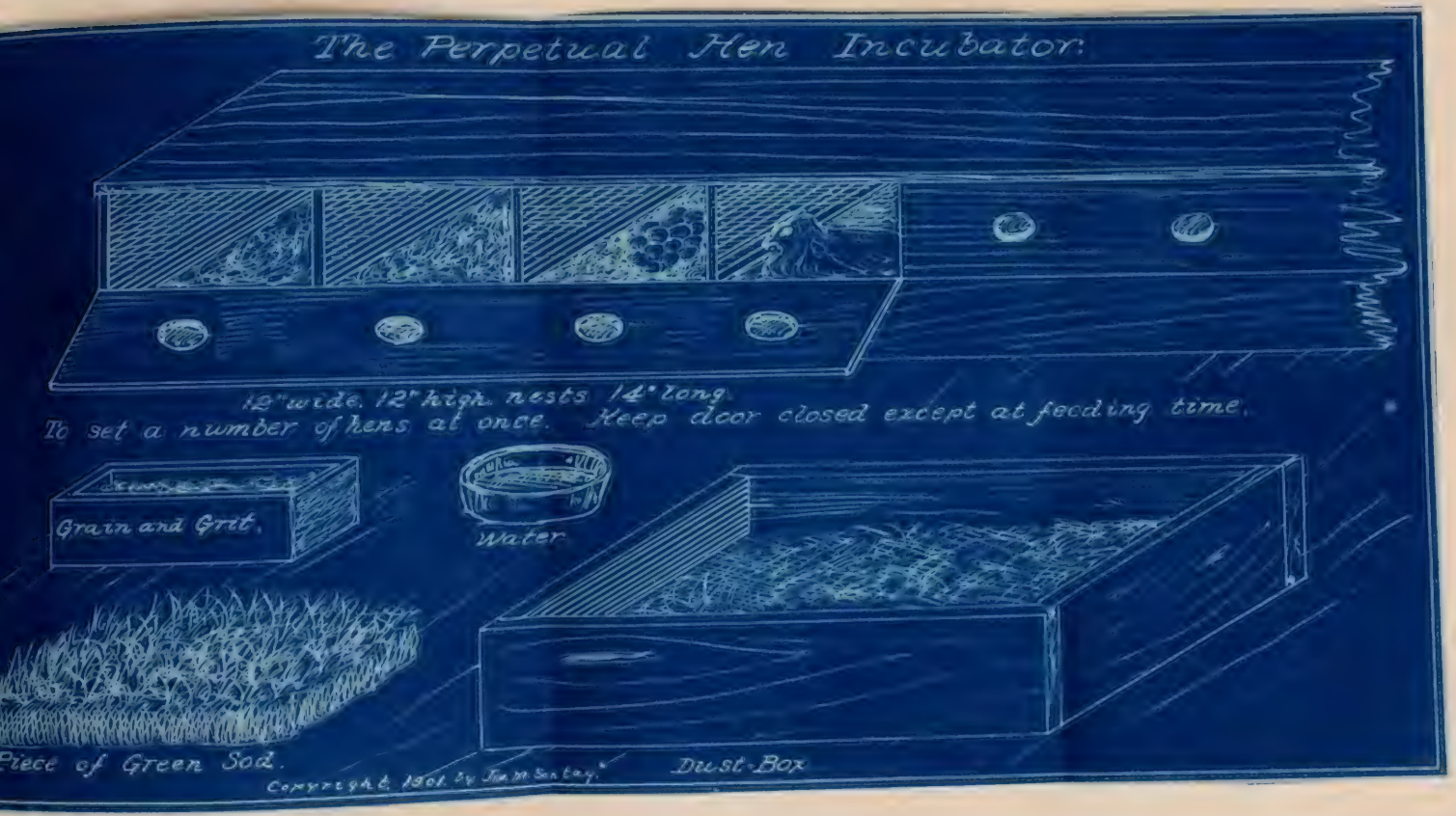
If anyone says the Poultry business will be overdone, tell him that it was forty years ago when the incubators were first made. But instead, Poultry and eggs are higher to-day than ever before, and not only that but we buy 6,000,000 eggs from Canada every year to supply the demand. Then too, we are growing every year, and so are the Poultry, and the feathers are used more, and the eggs are used more in the arts and elsewhere for photography, dying, glue, etc. Every year there are new uses for the eggs. Ninety-nine out of every hundred fail who go into the Poultry business because they don't know how, but it must also be remembered that about ninety-six out of every hundred fail in every other business. If you want to make a success of any business you must like it first, then you will make it go. But if you are looking for the dollars on the trees you will never make it pay.

There is money in pure bred poultry and lots of it, but there is more money in market poultry and for egg considering expenses, etc.

I have personally made money in fancy poultry, also in poultry for the market, but it takes long experience in breeding show birds, and one must know how to mate to win in shows, and above all you cannot raise winners with fifty cent Poultry. $100 for a hen or cock is an every day occurrence and as high as $500 has been paid for one bird. Eggs

sell $1 to $15 per thirteen eggs, if you have the right kind of

Incubators. Should all be of a size and of one breed. Bet-


The Perpetual Hen Incubator.
12" wide. 12" high. nests 14" long.
To set a number of hens at once. Keep door closed except at feeding time.
Grain and Grit.
Water
Piece of Green Sod.
Dust-Box
Copyright 1901 by Jas. M. Scriber's

sell $1 to $15 per thirteen eggs, if you have the right kind of stock. Farmers sell eggs in the spring for eight cents per dozen in the stores while I sell them at $5 per thirteen, and thousands of other breeders do the same thing. If you go into the Poultry business for the market look up private trade, and you get twenty-five per dozen easily for your eggs the year round. But you must stamp each egg and guarantee them fresh laid and not over three days old. Thousands of rich families will pay fifteen to twenty cents above store prices if eggs are fresh and come from reliable poultrymen, and you can always get eighty to ninety cent for a three pound spring chicken if you get them in May and June. Hatch them in an incubator and raise them by brooders and it will pay you well. If you go in for the fancy poultry business, advertise and show your stock. It certainly will pay to advertise heavily the year round. It pays me well in the fancy poultry business, but I am warning those who are not experienced to go slow and learn to walk first.

Incubators and Brooders....How to Manage Them Successfully.

Round incubators are the best. The incubator house should be half in the ground, say four feet in and four feet out, windows in the east side only and a ventilator in the top. This kind of a house will have an even temperature the year round. The roof should be double boarded with a four inch air space, the room should be clean and no other truck in it except incubators. It should not be very light and not damp, but should have a sweet smell and lots of pure fresh air, no draught, windows open to the east only, floor of sand, no board floor, the only wood to be the supports of the incubators. The machine must be set level, this gives an even heat all over the machine.

How to Start an Incubator with Eggs in it.

Above all never save the eggs longer than eight days for incubators. Should all be of a size and of one breed. Bet-

ter results are had by doing so. With hens eggs start the incubator at 101½ degrees the first week with thermometer bulb between the eggs. Do not stand the thermometer up, but lay it down between the eggs with the top a little above the bulb end, so you can see it without opening the door. On the second day turn the eggs, each and every one. Mark the eggs and you can see when they are all turned. Now, air these eggs ten to fifteen minutes every day for a week and turn every egg twice a day. During the second week turn the eggs three times a day and the thermometer should show 102½. Air the eggs twenty minutes every other day. During the third week turn the eggs three times a day and air them every other day forty minutes in hot weather, and an hour on the alternate days. The thermometer should show 103½ degrees the last week. On the nineteenth day stop airing and turning. The air space should then be one-third of the egg. The chick should pip the shell on the morning of the twentieth day.

Now when the chicks come out on the twenty-first day close up all the ventilators. This keeps in the moisture from the chicks after breaking the shell. If you don't close the ventilators the air passes through and carries out the moisture, and moisture you must have just at this time. You should try to get along without putting in water for moisture as it drowns the chicks in the egg by too much moisture. The water, together with the heat makes the chicks grow too fast in the eggs and they cannot break the shells.

When the chicks are all hatched, which should be on the twenty-first day, open all the ventilators. Any chick which hatches after the twenty-first day is weakly and not worth saving, and will die sooner or later. When the chicks have been in the incubator fifteen hours and are all dry open the incubator door a little. This is to get them used to the outside air. In opening the door the thermometer should show 95 degrees in the rear of the incubator one inch from the floor. When the chicks are thirty hours old, take them out and put them in a box with sand on the floor, and a

BIRDS READY FOR SHOW.

cover over them to prevent chilling. Put them in the brooder heated anywhere from 95 to 100 degrees two inches from the floor. See that the brooder has two inches of sand on the floor. Never have straw on a brooder floor. There should be a proper ventilation in the mother in the center of the hover. Not a direct draught, but a perfect slow passing air going and coming into the mother at all times. This prevents weak lungs and consumption. The brooder should be of no hot dry heat kind. If the brooder has a hot dry heat you will not raise half of the chicks, because the heat is not natural. A moist heat is natural and if given all the fresh air the chicks want, they will never be bothered with weak legs, bowel troubles, etc. If you hatch 1,000 chicks and only raise one-third of the number it will not pay. It pays to buy a Natural Hen Brooder, a brooder that has natural heat and ventilation and will heat up in ten minutes any time.

Feeding Chicks.

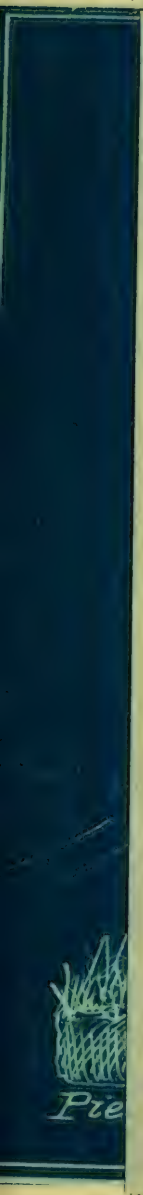
When the chicks are forty-eight hours old, feed them their first food, dry bread crumbs. Two hours later oat meal flakes, and then every three hours feed them a different food. Always feed them dry food, never wet. When they are three to five days old feed cracked corn, cracked wheat, a little millet seed, hay seed, cracked corn roasted and bread toasted; boiled milk three times a week and onions cut up. Never let them drink cold water, as it causes bowel trouble and cramps.

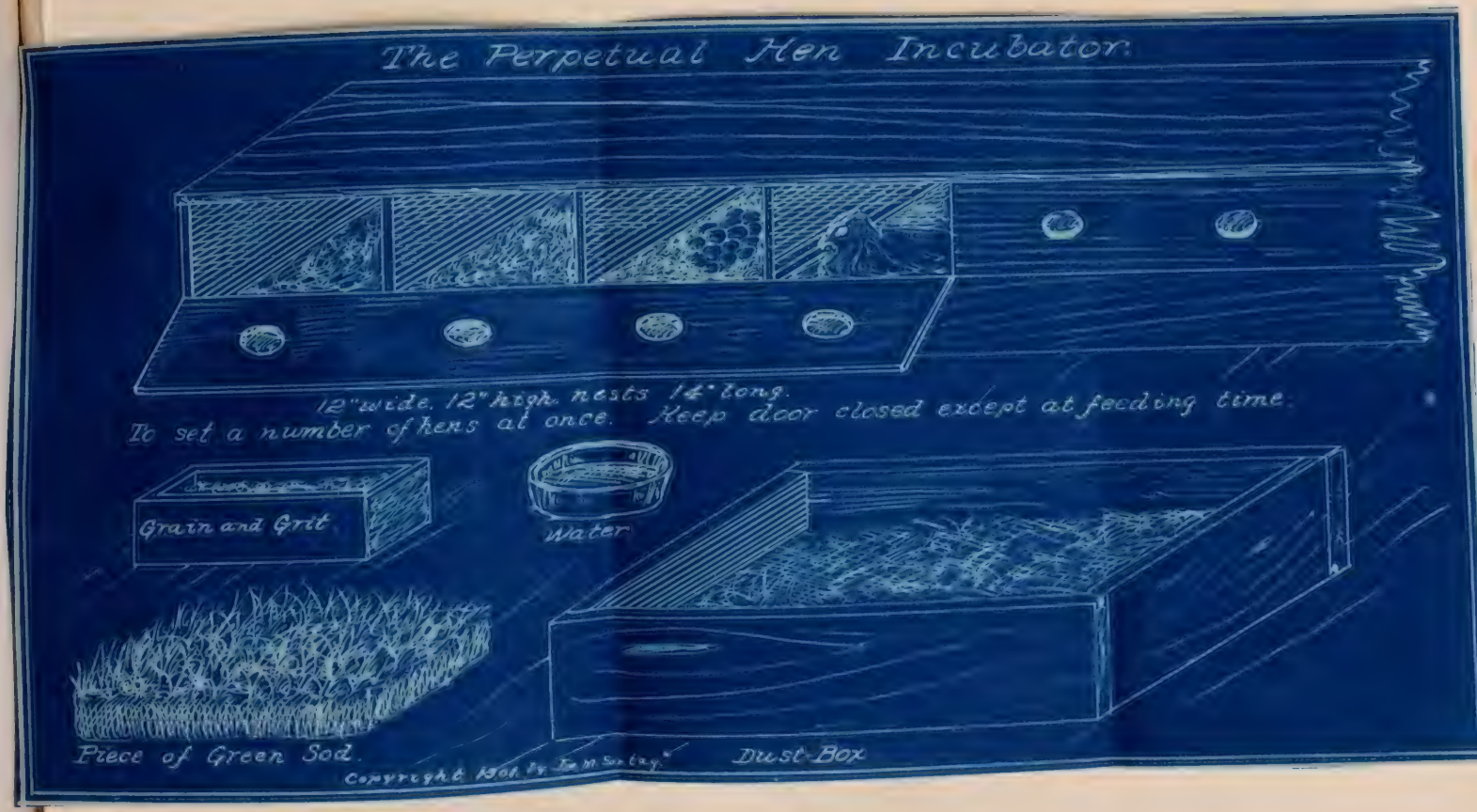
When chicks are three days old, if the weather permits, let them out doors in the air and sun, and give them free run of the yard, and when fifteen days old free range. Never feed until their crops are empty, and keep them scratching in straw when three days old. Be sure and feed them a different grain at every meal every day. Never try to raise them on one kind of feed, it does not pay and you will not raise one-half of the chicks. A variety makes them grow

fast and keeps them healthy. When the chicks are four weeks old keep them out doors, that is, brooders and all, and when they are six weeks old, keep a box of cracked corn before them all the time and they will grow like weeds, will soon tire of cracked corn and will look for bugs and worms. If they don't get enough on the range they will come to their cracked corn and will not be hungry. They will keep growing and will not get fat. They always have an appetite, like a young duck, and eat all the day long, but in doing this give them free range, not yarded.

Look for head lice and use gasoline on their heads and necks. Do this every month, and you will be surprised to see those chicks grow. When they are seven to eight weeks old they will not need any more brooder heat, and should be put in a roosting coop or in a combination brooder and roosting coop as shown on the blue print. This coop is the best roosting coop yet placed on the market. You will see it has two stories, the upper and lower each about eighteen inches high, and a round hover, with cloth the same as a brooder hover. This is used for chicks six to ten weeks old. The mother is forty inches in diameter, and has perfect ventilation. Their own animal heat keeps them warm. This brooder will house 100 or more up to ten weeks old. When they are ten weeks old, train them to go up to the top floor, on the roosts and put lath over the doors so that the older chicks cannot go through into the lower floor. In this way you can keep the coops going all summer. You can make a lot of them if you intend raising a lot of poultry and you will never like anything better on the farm than this coop. You can keep pullets in this coop until late fall and raise them healthy. They will not sweat and catch cold as there is plenty of air around roosts. The coop is rain proof, and cats and minks cannot get at the chicks. The greatest blunders have been made on chicks after they were eight weeks old. Poultry breeders and farmers let them hunt their own roosting place. Generally they all go into a box or barrel, fifty to 100 in a small space. They crowd to keep

warm, and crowding prevents growth. The greatest trouble
is that they sweat during the night and when morning




The Perpetual Hen Incubator.
12" wide. 12" high. nests 14" long.
To set a number of hens at once. Keep door closed except at feeding time.
Grain and Grit
Water
Piece of Green Sod.
Dust-Box
Copyright 1901 by Jas. M. Sutay

warm, and crowding prevents growth. The greatest trouble is that they sweat during the night and when morning comes the air is cold. They catch cold, roup sets in, half of them die, and you will have nothing but small measley chicks instead of laying pullets. This coop is a matter of years of experimenting and I personally made it for my own use and never had better results. With it I have raised pullets which layed at five months old and weighed from four to seven pounds each. This kind of poultry win in the poultry shows and never have been beaten in my case.

Always keep the pullets and cockerels separate, and never allow a lot of cockerels to worry the pullets. The cockerels will grow much faster, larger and heavier if alone also the pullets grow and lay earlier.

About the middle of November put the pullets in their winter quarters and don't close the house up tight. When you put them in their new home, give them plenty of air and gradually close up the house. You must use a little common sense and judgment about it. You see, they have been used to out-door air day and night in an open front shed or coop. Always give them free range. Charcoal is good for the chicks when but a few days old, as well as for the hens. Onions cut up fine are the best doctors for fowls as it gives them an appetite, cleans out the system, serves as green food and prevents diseases.

When the chicks are eight weeks old give them milk every day. It makes them grow.

Pullets in their new winter quarters should be without cocks or cockerels until February. They will grow larger and lay better. Feed pullets green food of all kinds and always feed corn at night, all they can eat. Don't feed much mash food, feed it only twice a week and mix grain in the ground food and always just moist, never wet. Keep dust boxes full of fresh dust and keep the grit boxes full. Never have drop boards within three or four feet of the roosts, unless you clean them off every day or you will have sickly pullets and hens.

In mating these pullets for breeding use a cock over one year old and put one cock for fifteen pullets in one pen. If you are selling eggs for the market you don't need the cock and the eggs will always keep better if not fertilized. You need not be afraid that some one will set the eggs, as the pullets having been without a cock, the eggs will not hatch.

Pullets are the only money makers. The hens do not lay one-third as many eggs as the pullets during the winter and all the hens over two years old sell for breeders or to a market. They sell best about July.

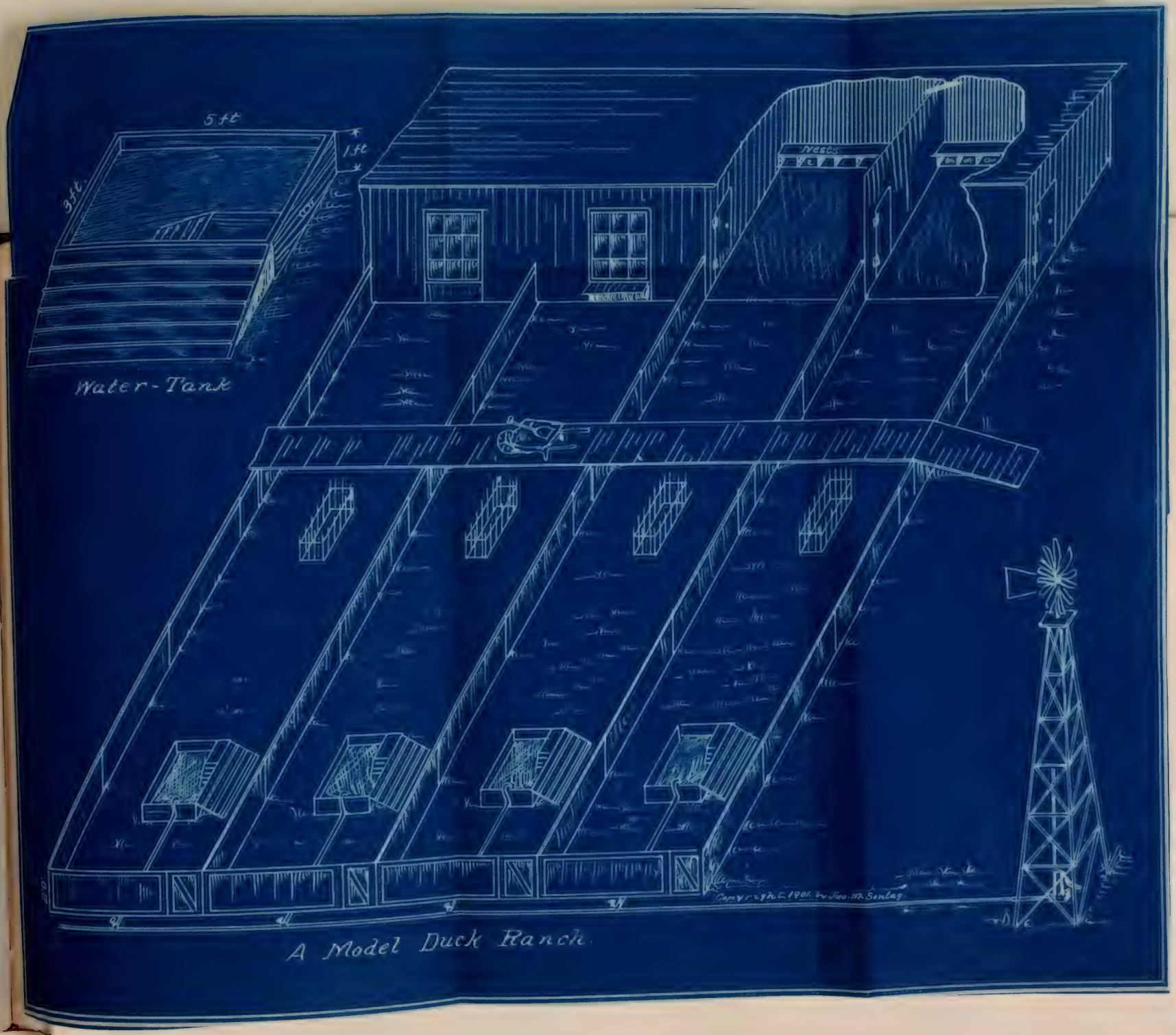
But if you want good, strong, large, healthy chicks for next year's layers, keep the eggs from the hens for hatching. If you want to keep eggs for hatching from pullets do so from February and March hatched pullets, and keep eggs for hatching after pullets are a year old.

Never force hens or pullets to lay when you want eggs for hatching, and never feed mash food when saving the eggs for hatching. Grain makes strong rich yellow yolks, especially corn, and if you force the hens with all kinds of powders, pepper, etc., the eggs will not hatch good nor be very fertile, and most of the chicks will die in the shell. Throw the grain in straw and make them scratch for a living, but don't overdo that either. Keep them in good flesh, and to every pen or house give them a pail of coal ashes. This is a great egg food and is healthy for chickens of all ages. So is lime and charcoal and clover hay cut up fine. Never feed hot mashes or have a stove in the hen house in winter.

Water Fowls are Money Makers.

China Pekin ducks are the best money makers and pay better for marketing than broilers or spring chickens because they grow so fast. A ten weeks duckling often weighs six pounds and in May sells for ninety cents each at that age in almost any market. This is fifteen cents per pound. A spring chicken weighs only two pounds at ten weeks of

210'
Sontag



A Model Duck Ranch.

age and sells for thirty cents. You will say a duck eats more. Of course they do, eat twice as much, even at that there is sixty cents profit in a duck, and it costs only thirty cents to feed a ten weeks duckling and a ten week chick costs fifteen cents each, so you see there is a heap of difference. Duck business pays well if the proper incubators and brooders are used, and a good manager, who understands his business, is at the head of the concern.

How to Start in the Duck Business.

First of all I want to say that the duck business is very hard work. Much harder than the poultry business on a very large scale. I hatched and raised 26,000 ducklings and chickens in 1898 with twelve helpers at the Chatham Fields Duck Ranch, the largest ranch in the west. We fed half a ton of ground food per day, mixing mash food and wheeling it in the yards all over a ten acre field where the ducklings are raised for market. We ran thirty-one incubators, a hatch coming off every day for eight months. I personally ran the incubators and was manager of the plant. I had to oversee the whole business. and it kept me on the jump day and night. So you see it is no small undertaking and only strong, hardy men can stand it on a large scale. If only a few hundred are raised any lady who likes the business can manage it, and for that matter, only those who like the poultry business can make it a success.

How to Manage Ducks.

Above all buy fifty to 100 ducks early hatched, and one drake to five ducks. Fifty may run in one pen. Suppose you buy your ducks in the fall. As soon as cold weather comes on, start feeding them all they want to eat twice a day bran and ground feed half and half. Keep grit and oyster shells in boxes and a pail of water to each pen, every time you feed. At night see that they have a good bedding

of straw. You can not raise ducks unless you keep them dry, when they are at rest at night. Don't close them up in an air tight house. Ducks can stand a good deal of cold weather as long as they can keep their feet warm, so you must provide straw for them to lay on.

About January 1st feed them cooked beets and turnips, or a head of cabbage to each pen, and mix in their mash food ten per cent of beet scraps at each meal. At noon feed them five quarts of corn to 100 ducks. Never feed them on grain except at noon, especially when they are laying. If corn is fed at noon the eggs will be a rich yellow in yolk and strong. Beef cracklings are very good for ducks. This is the leavings after the fat is tried out and may be bought from any butcher or dealer in poultry supplies. There is a good deal of fat left on it and also the meat. It is a great egg food for ducks, and it is also a good fattening food for young ducks, if soaked in hot water for a few hours. Cut clover is good for them. In about fourteen days your ducks will commence to lay. They will commence to lay about February 1st if fed on beef scraps cooked and beef cracklings. Beef scraps can be purchased of Darling & Co., Chicago. As soon as they commence to lay see that they have egg boxes low down on the ground. They will cover up their eggs, and if you have clean straw all over the house, your eggs will not get dirty and will not need washing before putting them in the incubator. If they are dirty you cannot test them in the incubator. Washing eggs is no small job. It is not good to wash duck eggs, as nature has provided an oily coating on the shell and if this is washed off you will not get good hatches. While ducks are commencing to lay you must provide a pond for them or a long water through eight inches deep, two foot wide and four foot long, and so arranged that they can get in and out easily. Now the reason for this is to get fertile eggs. If ducks don't have water to mate in you will not get many fertile eggs, as it is natural for them to mate in this way. They enjoy it and do much better.

The first two weeks the eggs are not very fertile, but after February 15th the eggs will get fertile and then you can start your machines. They will then lay almost every day until June. After June let them in a free range, with only one feeding a day. No shelter is necessary until fall or snow flies.

Ducks lay their eggs during the night and before nine o'clock in the morning. Never let them out of the house before nine o'clock during the laying season.

In May watch the drakes, and if they ride the ducks too much take one-half of the drakes away, and also the ducks which are weak from the drakes riding them too much.

Don't feed oyster shells to laying ducks as the shells make the egg shells too hard for the ducklings to break when hatching.

Care of Ducklings From Egg to Market.

When ducklings are hatching in the incubators, don't open the door at any time until all are out. If you open the door it lets out the moisture and chills the ducklings while wet and hatching. The cold air striking them is fatal. When they are all hatched and dry open the incubator door a little to accustom them to the outside air. This you must do gradually. When they are thirty-six hours old take them out in a covered basket or box with sand in the bottom. Before putting them in the brooder dip their bills in warm water for a drink. This gives them a good start. For their first feed, give them stale bread soaked in water with a little oatmeal mixed in. Feed this for a few days every two hours. Then feed one-half bran, one-fourth oatmeal and one-fourth bread all wet up in warm water. Always give them a dish of water to drink from while feeding. Never feed ducklings sour food or cold water until they are ten days old.

When ten days old feed one-third cornmeal, one-half bran, a little middlings and second grade flour. Never feed much cornmeal, as it is too fattening, and they will get lame.

It also causes bowel disorders. Ducklings cannot stand much cornmeal until they are three weeks old, then feed one-half bran, one-half ground food, oats, etc., feed them a little beef scraps, say ten per cent of the feed and a little green food chopped up.

When four weeks old feed one-third cornmeal, one-half bran middlings, feed beef scraps three times a day. Don't forget grit in the boxes.

When six weeks old feed one-half cornmeal, one-fourth bran middlings, green food, beef scraps four times a day. Feed every two hours or five times a day, and when you see they are off their feed, don't feed anything until they get hungry.

When eight to nine weeks old feed one-fourth bran, three-fourths ground food, of one-half corn and one-half oats ground together and always feed beef scraps and green food.

At ten weeks old don't feed any green food, or in other words, don't feed any green food ten days before marketing. This green food makes the duck look green in color of skin, and flabby. Grain mash makes them plump and hard in flesh. Beef makes them grow fast. Their meat is fine in grain, white and sweet, when fed on cooked meat. Never feed a duck raw meat nor mix grit in their food, as this is not natural. Any fowl knows when their system wants grit. If you mix grit in their food the gizzard gets full of it and no food can go in the gizzard to digest and finally they die of indigestion. This applies to poultry as well as ducks.

The last few days, while ducks are ten to eleven weeks old, just before killing, feed them almost all cornmeal, with a little meat and celery cut up fine. This gives them the celery flavor and they sell better for it.

When young ducklings cross their wings on their backs they are ready for the market. They should then weigh six pounds each if they are the China ducks. If they are the Pekin ducks they should weigh five pounds at ten to eleven weeks old, live weight.

If you have a good market at home you need not ship them east. But if you have not it pays to look up a good market. Ducklings bring fifteen to twenty-two cents per pound from April to May 20th and the best prices are obtained in Boston and Philadelphia, often twenty-eight cents per pound in early May.

Dry and Scalded Picking.

This depends for which market. Some want dry picked, others scalded ducks. Dry picking is very hard and it takes a long time to pick them. An expert can dry pick a duck in twenty to thirty minutes and it takes a good picker to dress thirty ducks a day. On the other hand an exper can dress seventy-five scalded ducks a day, so it pays best to scald them. Dry picked ducks sell at two cents per pound more than scalded, but it takes all the profits away, because a man's time is worth more in picking.

How to Kill and Pack.

Catch them by the neck with a hook made of wire on the end of a pole. Use a sharp pointed killing kife. Cut a cross in the back of the throat and then turn up the point and put the knife into the brain. This will loosen the feathers. Now if you are going to dry pick get at it before the duck gets cold. Begin with the wings and tail, then the breast and back. If you are going to scald them put them in hot water just coming to a boil. Take them by the necks, two at a time and dip in and out for a few minutes until all the feathers are wet. By trying a few feathers on the breast you will know when the feathers pull easily. Put them on a bench and pull out as fast as possible without tearing them. Use the thumb and finger to pull feathers and by doing it quickly and not taking too many feathers at a time, you can dress one in ten minutes easily. When you have all the fine down picked off, dip it in cold water, wash out blood from

bill and neck and then dip in hot water just a second, and then in ice cold water and keep there until all the animal heat is out of them, say for two hours. Dipping them in the hot and cold water makes them plump and round looking and they will sell much better. Never dip heads in hot water, as it makes the eyes look bad, as if the duck had died from some disease. Then pack them on a shelf or in an ice box.

Ship ducks at night or early in the morning before the sun is out, and then the ice will not melt so fast. Wrap the ducks in paper with ice between them and pack in boxes or barrels.

At What Age to Market Ducks.

Some market ducks at eight weeks of age, some at six weeks, but the largest profit is when the ducks are from ten to eleven weeks old. If you get only twelve cents a pound for ducks in late spring it pays, and if they weigh six pounds each at twelve cents a pound you get seventy-two cents for each duck, and it only costs about thirty cents to feed them until eleven weeks old.

Diseases and How to Prevent Them.

If your ducklings are lame you are feeding too much grain, or are feeding too much fattening food. Always feed a little bran, this keeps the bowels loose. Cornmeal is dangerous to newly hatched ducks. If your ducklings have cramps, the cause is cold drinking water, or you are housing them too close in a brooder. They don't need much heat to keep warm when four weeks old. When you lock them up for the night give them all the air you can or they will sweat and steam and you are liable to overheat them. This causes cramps when they are sweaty and go out in the cold morning air. Always give them warm water to drink until they are at least ten days old and warm food, not hot, but

blood warm. Ducks are very hardy but cannot stand getting wet while they are very young. A wet duck before three weeks of age is generally a dead duck, but when their feathers are out they like the rain and wet.

Ducks for Market.

Never let young ducks go in a pond if you are going to market them. They fatten better and grow quicker without water, but you must have a pail so that they can put their entire heads in water when they are five weeks old. This is to clean their eyes and bills.

Never keep feed in troughs or it will sour. Clean out the troughs every day in warm weather, Sour food will kill a duckling.

Keep forty ducklings in one pen, say 10x40 or larger, and a shed to go under for shade. Keep a dry place for them at night. Pekin ducks lay about 100 eggs per season and a White China about 140 per season. The eggs hatch about the same as hens eggs, as regards fertility, but it takes twenty-eight days to hatch them.

Breeding ducks should be let out every day in the year and their houses should be well aired. They should not be too closely housed. Lots of air means success in this business, and foul air and wet houses means failure. Try to keep the yards and houses clean. Clean out at least once every week and throw air slacked lime all over the yards and houses.

Sore eyes in ducklings is caused from filth, and want of grit, and proper watering dishes. The dishes must be deep so they can stick their heads in the pail over their eyes.

All told, keep ducklings dry, feed green food, lots of air and shade. Don't let them paddle in the water all day while young. Not too much cornmeal while young, no sour food, and you will have solved the problem.

Be careful in salting foods. Use about one handful of salt to a 200 pound mash, and only salt once a week.

Never have different ages among your ducks, have them all of a size and if some are smaller put them with a smaller lot. Then they will get a fair show for their living.

Don't feed much meat to ducklings when very young, and never feed grain. Never give them milk to drink as it makes the down come out.

Always water while feeding mash or they will die. they must have water to clean their bills out and their nostrils for air.

When ducklings are raised for breeders don't force them. They don't need feeding five times a day. Never let them in the water to swim. They lose their weight and will not fatten. Also keep them yarded. If you are raising them for breeders, let them in the water when they are eight weeks old. They enjoy it and do well on free range and find lots to eat in the way of bugs, etc. If these directions are followed you will make it pay better than corn or hogs.

There is twice the money in ducks that there is in hogs. Hogs sell at $3 per 100 pounds and ducks will bring $10 per 100 pounds any time in the year and sometimes will bring $25, so you see the profits are good in ducks.

GEESE.

There are half a dozen breeds of geese, but the best market geese, and the hardiest, are the Toulouse and the Brown China.

The Toulouse goose lays forty eggs per year. The Brown China lays sixty to seventy per year. The weight of goose and gander when one year old is about twenty pounds each and their meat is coarse and flabby.

Brown China geese are the most beautiful geese one can imagine. They look like swans and are like soldiers when out of the water. their heads up and very proud. They are very gentle and the young are hardy.

A goslin hatched is a goslin raised. This tells how hardy they are. Their meat is the best, fine grain and flavor and sweet and juicy. Their feathers are high priced and sell for seventy-five to $1 per pound.

Management of Geese.

Greese need free range and water to do well. They eat grass like a cow, also hay in the winter and they like to eat rotten stumps, roots, etc. Geese cannot be raised in a large number, twenty-five will want an acre and a pond. The China geese are not roamers. They will stay around the house and should have a shed out near the pasture so they will not hang around the dwelling house.

There are lots of farms where nothing can be raised, at least not on parts of such as swamps or woody land. This is an excellent place for geese. Many farmers make it a business and as they eat but little grain and mash it pays better than any other stock, considering the land they run in. Any old shed will do for shelter. They live to be fifty years old and lay and hatch as long as they live. Ganders when three years old should not be kept for breeding, the young gander is best. The young gander is more active and the eggs are more fertile. The goose eggs will not be very fertile until three years old. The breeding season commences about February. The goose generally lays three or four litters of eggs, fifteen to twenty at each litter. When the goose lays her first litter and wants to set take the eggs away and set them under hens. Always leave one egg in the nest or she will look for another nest. A goose always covers up her nest. When she lays her last batch, let her set on the eggs and hatch her own young. The young goslins live on grass the first week. If you feed them anything give them mash or bread, milk curd, etc., but never try to yard them. This is not their nature and they will die if you try it. They like green food of all kind.

The young goslins should be fed on mash food, beef scraps, cooked turnips, potatoes, whole corn and oats.

Be Gentle with Geese.

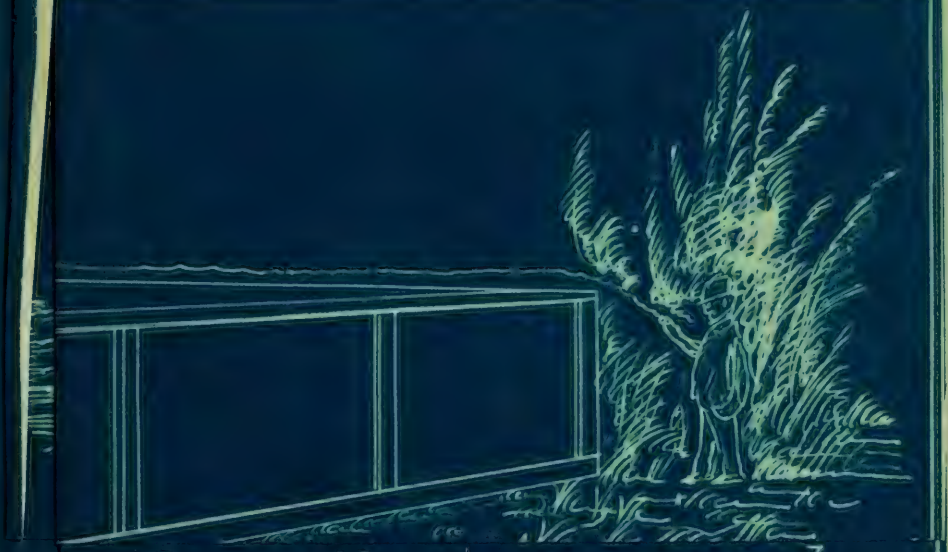
Don't have a goose fat when the laying season commences, but feed them well while they are laying.

To fatten young geese for market, fatten them only twelve days. Put them in a pen and feed three times a day cornmeal and beef scraps and a little bran. Keep them quiet while fattening and don't scare them. Don't irritate them in the least or they will not fatten. At ten weeks of age they are ready for the market, just when the wings reach the tail. Pick them dry, and it should be done before cold weather comes in October or before, as in cold weather the feathers are hard to pick.

If you want to pick them alive do so just before cold weather comes, and never pick a goose unless the ends of the feathers or quill is dry so no meat or blood is on the end of quill. In the spring and early fall is the best time to pick them. The best results are gotten when crossed, say a Toulouse on a China, or Embden goose, or an Embden on a China. They mature quicker and weigh much more. Green young geese sell best when the Jews have their holy days. A goslin will frequently bring fifteen cents per pound and a goslin weighs twelve to fifteen pounds when fifteen weeks old.

TURKEYS.

Here is where nature *must* be followed to be successful. They are easy to raise if you know how, and if you don't know how you will never make it pay. It is a password among farmers that the turkey is hard to raise, they say that if they get wet they die, they get lousy, their wings get heavy, they get weak, fall over and die, or they get loose yellow droppings and die.



. Open the year round.
2ft. high in front, 16 in back
rds. No trees near house.

Copyright 1911 by Ralph Smiley

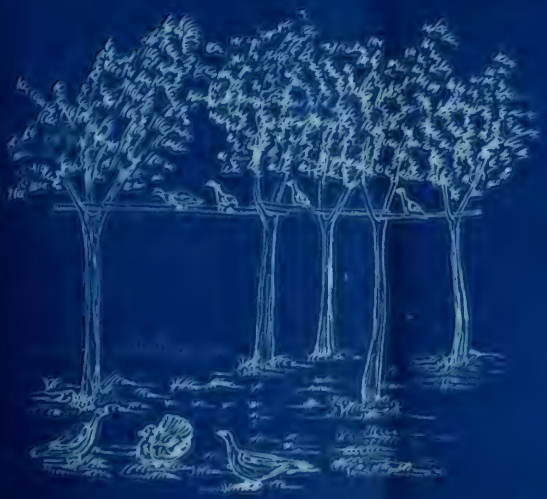
How to Catch Turkeys in the Fall, when you want to fatten and market them

Build covered yard 6' high, 50 square front hinged as shown. Feed near yard for a week, then inside leaving doors open until they are all inside. Then drop doors, make roosts in yard and fatten on boiled corn, oats and beans. Give charcoal and grit, and plenty of water.

Dont chase or scare them in the least, or they will not fatten but will pine and lose flesh.

Fatten them only 14 days. Never feed turkeys until fattening time. If you do look out for sick and dead turkeys.

In winter feed once per day on corn and oats.



Turkey Roosts for Spring to Fall.

Turkey Shed for Winter.
East Front. Open the year round.
12ft deep 12ft high in front 16 in back
No drop-boards. No trees near house.

This is so, but if they would stop to think and study their natural habits they would be successful. I lost hundreds of turkeys before I studied nature and understood its natural laws.

I have seen turkeys in their wild state in the southwest, and watched them, their habits and nature, and noticed a great many things, how to feed, where they roost and a hundred other important points.

A turkey is a wild fowl which has been domesticated and improved in size and color. A turkey above all will not bear confinement, yarding or handling at any age, but especially the young.

How to Start.

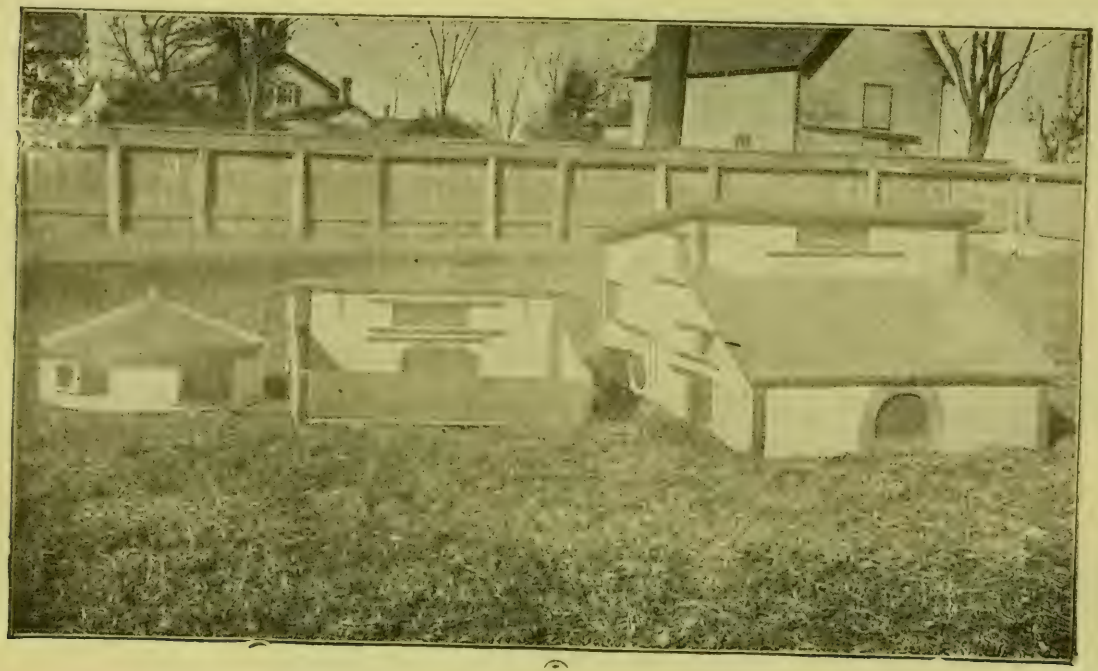
Above all start with old stock. They must be three years old, at least the hens. Never try to raise turkeys from young hens, they are poor mothers and their egg are not very fertile. The young are weakly and you positively must not fence them or keep them around the dwelling house. Build a high shed for them, say sixteen foot high, and it depends how many you are going to raise as to the size of the house. The best place for turkeys is in a timber country. Have the house away from all other poultry. There are a dozen reasons for this. They will not do well among poultry, and they overeat themselves with grain. It is not natural for them. They in their wild state look for their food and it is not thrown to them. There never was a sick wild turkey, nor a wild bird. They are never overfed. Nature provides bugs, seeds, etc., and they don't have to stay in poorly ventilated houses with a bad smell of manure. They will do best on trees the year around. If you can make them go in the sheds or a house sixteen foot high with poles up high, they will like this better than if in a low house. In the spring let them go in groups of say ten to twelve in a bunch, and have a house for each bunch. Make the houses say one-fourth mile apart, or the gobblers will fight and kill each other. Get them used to their own sheds

Don't bother or scare them in any way. When you feed the old stock do so near their sheds at night. When they are laying don't go near their nests and let them hatch their own young. When the poults are hatched don't handle them at all.

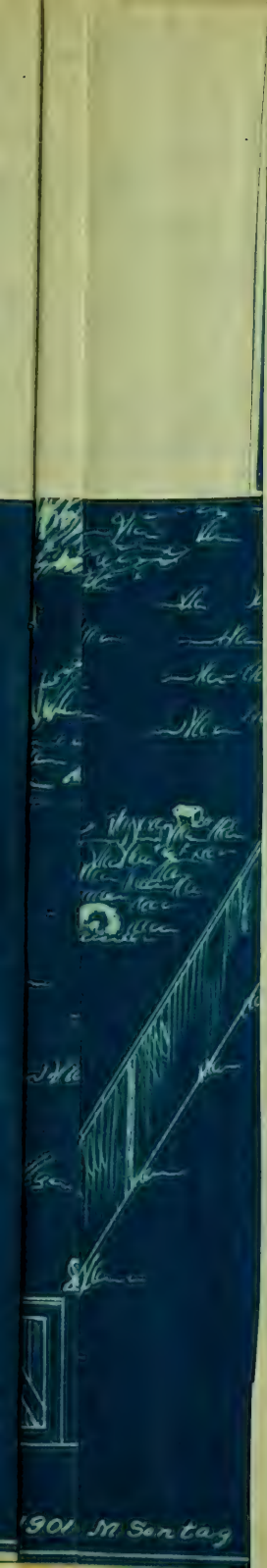
They positively cannot bear handling, and the old hen can do more for the poults than the best poultryman on earth. She will see that they do not get wet or overfed and if you keep away she will raise all of them. I have done this for eight years. I tried every way to raise them at home, but one hen in the wild state could raise more than I could with half a dozen hens, with day and night care.

About once a day I go out and feed them milk curd and black pepper and onions cut up fine. Pepper and onions are life savers for turkeys. They live on grasshoppers, bugs and the hen herself will not go hungry. But just as soon as you feed corn and grain to turkeys they get too fat and get indigestion and yellow droppings, loose and sulphur looking stuff. This is not cholera but indigestion, too much grain, and if you feed the young and catch them every day or drive them in when a storm comes up they will get sick in spite of you. They are very timid and it worries them to death to be chased or driven. The lice will not bother them if you let them go wild and help themselves. If you want to you can use gasoline on both the old and the young turkeys, if you are sure they have lice. Spray it on them and it will not do them the least harm. Provide a dust box for them of wood ashes and sulphur mixed, and have the box covered so that the rain will not wet the dust. A shed for this would be a good thing, so arranged that the sun could shine in the box and yet keep the rain off. Make the roof about three feet above the box, and about twice the size of the box.

In the fall about November 1st pull out or cut their wing feathers. Drive the turkeys in a shed or yard and feed them on boiled corn and beans for ten days and then get them in the market five or six days before Thanksgiving Day. The Mammoth Bronze turkeys ought to weigh fifteen to twenty pounds each, and this at nine to ten cents per



NATURAL HEN BROODERS.


1901 M Sontag

Hutches in House.
Wire fence 1' in ground.
A Belgian Hare Park.
Copyright 190

pound will make each turkey bring $1.50 to $2 each, a good profit, with no cost and no time to speak of. Turkeys pay better than any other thing on the farm considering time and cost.

In California turkeys are herded like sheep. I have seen thousands of them herded by boys. At night they are driven into a large twenty-five acre yard in the center of which are high trees with poles laying from one tree to the other. They roost on these and no coyotes or wolves or wild cats can get at them. They are shipped east in carload lots, and sell at $1.25 each on foot, when fall comes. A small fortune is made, as they are seldom fed except for the market in the fall.

BELGIAN HARES.

Nature must be followed in these to be successful. Have you not noticed that if you capture a wild bird or a cotton tail rabbit that they will die if you try to keep them in a cage? To prevent this they must be given their liberty. You can keep them if you make a fence tight all over and large enough, say one acre for fifty or so and have it away from the house and as near wild as you can get it, then you will be successful in raising all.

Belgian Hares can and are raised in small yards. In fact, most all have no yards at all, only small boxes, 2x3 feet, but they have to be very careful, clean out every day and pen each separate. The bucks must be kept separate from the does, or they will kill the young and fight with the other bucks. This is a good deal of work and expense to keep each separate and takes a great many dishes, and many gates to open to clean each pen. It is impossible to keep them healthy and have them do well if they are confined without outdoor air and exercise.

Belgian Hares for Market and Breeding.

I always had success and no diseases. I kept them in a large yard so no dogs could get at them and a fence high enough. A rabbit must be on a free range so to speak, or a large yard to run in and a lot of boxes in a long shed partly underground, high and dry, with a small opening in the box about 6x6 inches. When the doe has her young she closes the hole up tight so no buck can get at the young and he will not take the trouble to open the holes. When you feed them you can do it on a large scale, also watering them and no doors or gates to open.

A woody underbrush is an excellent place to raise hares in. They eat bark, grass, clover and brush, and they love hazel brush. Have a load of straw in the yard and a lot of little houses all over the yard, and in each of these little houses have a bench fourteen inches high for the doe to go up on so the young cannot bother her when she is at rest. Have a box in the ground, say three feet long 12x12 inches and a hole in one end for the doe to go in, and on the other end a pipe three foot long attached to the box for air for the young. This pipe should go about a foot above the top of the ground. When she closes up the hole the young will have air through this pipe.

A good plan is to change bucks every week and keep the ones you have had in the yard in a large room or in separate boxes and feed them on oats, hay and water. This will give them a rest and they will not overdo themselves. The bucks get very poor if they have too many does to care for in breeding.

Feeding the Hares.

Hay, oats, corn and clover. Hay is the best food, and onions and cabbage. Not too much green food should be given them and all the water they want. Onions are the best medicine for colds in hares and is good for indigestion.

Don't overfeed them, keep them a little hungry at all times. A rabbit in the wild state gets its feed little by little and it takes them all night to get enough to eat. You never saw a sick wild rabbit, because they have liberty and never get too much to eat, they have to hunt for it. A good plan is to have a space yarded separate with a roof over this yard and a foot of straw in the yard. Throw oats, corn and carrots in the straw, then they have to hunt for their feed, the same as the wild rabbits do and they have to work for all they get and dig in the straw for their feed. They will not overfeed then.

A Belgian Hare is the finest eating, there is no better meat. One pair will raise at least seventy-five young in a year, and the young when six months old commence to breed, so you see one pair will easily raise 150 hares in one season. They commence to breed in March and keep it up until October and November. The best way is to let them breed only six litters and mark the bucks so that you will not inbreed. Use different bucks every year or you will be sorry.

Their pelts sell for thirty to forty cents each. All kinds of imitation furs are made from it. The hide is tough, and is toughest hide in the rabbit family. Rugs are sometimes made from the pelts, but they are very expensive and sell for a high price. Fur hats are made from them and many other things.

The business will never be overdone. It will be fifteen years before this country will have all the breeders they want, to say nothing about them for the market. You cannot buy Belgian Hares in the market now, and you will not be able to do so for several years to come. They are too expensive to be sold for food at present, as they are all being used for breeding, and until they are for sale in the markets how can they overrun the market. There are more cotton tail rabbits and jack rabbits in America than there ever will be Belgian Hares and they will never sell for five cents like the cotton tails.

The Belgian Hares weigh from eight to fourteen pounds according to age. One year old they weigh eight pounds.

I have had bucks that weighed fourteen pounds each, and have raised hares ever since I was a boy. My nick name was "Rabbits" at one time. I could sell them at $1 each at the market and the Sprague Commission Co., will buy all you send them at $1 each, or ten cents per pound. But they cannot get any, although they have a demand for them so Mr. Sprague told me personally.

I can sell all I want for breeding purposes at $5.00 per pair, and up to $25.00 per pair. If they are standard bred, have four red feet, good in color and shape ticking, length of body, and golden under color, they sell from $25.00 to $100.00 each.

But all in all the market will pay, and pay well; and if you want to go in on a small scale, try them. A small yard or house will do, but on a large scale, for market and breeders, it will not, unless you provide a large yard and follow nature.

It costs three cents per pound to feed hares, and you sell them for the market at the weight of eight pounds at ten cents per pound. You get eighty cents for each hare, and it costs you twenty-four cents for feed. One hare will net you fifty-six cents, and one pair of hares will raise seventy-five in one year; so you see it pays. One pair can make you easily fifty dollars per year, figuring all cost and feed, etc.

As the young will start breeding when they are six months old, one pair will really raise one hundred and fifty hares, if you understand your business. It certainly can be done.

It is no fad. It is an industry. They will be raised just like poultry, hogs and cattle for one hundred years to come.

The young should be weaned when four to six weeks old, and fed very light, and not very much green food.

Never handle them by the ears. Take them by the neck or just over the shoulders. They are too heavy to be handby the ears, and it makes the ears lop when handled in that manner.

They are a fine looking animal, of a golden red looking color, with black tips on their hair, called ticking.

Their meat is something delicious. It is the best meat one can eat.

A hog is a slow, sluggish animal, and if you eat their meat you derive no benefit from it, because there is no nutriment and no muscle forming or strengthening meat about a hog. On the other hand, a rabbit, or hare, fed on grain, is an active animal, and is all muscle and meat. They are not fat, the meat is of a fine, sweet grain, with small bones. The meat is very strengthening to sick people.

Hares live to be five to eight years old and they breed every year. Bucks should not be over two years old, but the does should be kept, as they are valuable animals. Feed dry foods as much as possible, and be careful about feeding the young green food. If you do they are apt to get pot-bellied and the snuffles, and die. Dry food and water, and once a week cabbage and carrots, but not too much at a time. Don't bother the nest; let them alone; the doe will do what is right, and will take care of the young better than the manager can. Dry bread and milk is good for the doe while she has her young, once a day, and other grain extra.

Pedigreed Hares Pay.

Every one wants pedigreed stock. If you want to sell stock at a high price, don't be afraid to buy stock for breeders at $10.00 to $50.00 per pair, with a good pedigree behind them. Four red feet, a golden red collar, long in shape, arch back, well laced, etc.

If I had one thousand pedigreed hares, I could sell them at $5.00 each in one week. It pays to get good stock; and don't be afraid of overdoing the hare business. They have bred Belgian Hares for thirty years, and stock still sells at $100 to $500 each.

Diseases and How to Prevent.

Nature Followed and No Drugs Used.

Causes of failure in the poultry business are diseases, and chicks dying after they are hatched. Ninety-nine out of every hundred read up on poultry, and feed them all kinds of powders and medicine, and kill them by filling them with all kinds of stuff. Nature provides bugs and seeds of all kinds but no medicines or powders. Wild birds never have diseases, and they raise all their young right out in the open air in all kinds of weather. But just as soon as you cage up a wild bird, it don't make much difference what it is, sooner or later it will get sick and die, just as sure as the sun shines. Now it ought not to die, because it is where it is dry and warm, fed regularly, and has the best of everything. But the best of care will not make the bird live. Why? Because the bird is a prisoner, has no liberty, is used to free range, and the regular food given is too high for it, No exercise, nor a fresh, pure air, as if out and free, and other things to which it is accustomed.

Expert book writers and expert poultrymen say that the hen that is on free range gets meat all day long, such as bugs grasshoppers, worms, etc., and we must feed our poultry meat from the butcher shop to poultry that are yarded up, because they cannot get worms, etc. Now they feed meat, all that they can eat, and a dozen other things, to make the hens lay. If this is done in the winter time they will get roup and distemper, just as sure as you feed meat and fresh bone in any quantity. In summer if fed on meat they will get liver troubles and go light, and other diseases of the same nature.

Now, why is it they get sick, if fed on meat? Just this, it is too rich for them. You must stop to think that worms, bugs, etc., are about ninety per cent water and it is not a rich food. It makes chicks grow and hens lay, but the food is not rich in nutriment and protein.

On the other hand, beef or any kind of meat is rich protein or nutriment, over seventy per cent and the rest water. It also causes indigestion as the meat is hard to digest, not being cooked. The gizzard cannot grind meat, it grinds grain, but this meat gets to the gizzard in chunks and stops up the opening of the gizzard at times and what food is eaten after the meal stays in the stomach, causing a disorder, distemper and indigestion. It causes a high fever and affects the liver and bowels. If you want to kill a dog just feed him all the raw meat he wants. You will soon notice a froth on the mouth, he will get stiff and a regular distemper set in, and if not attended to he will die.

It is the same with fowls, the first visible effect of rich highly fed poultry is a high fever, heavy breathing, water and froth in eyes, swollen eyes and head, then canker in mouth, then bad breath, worse than a rotten egg. This is *roup*, and if one has it they all get it and the whole lot will die. It is contagious. No medicine on earth will *cure* roup. The very best thing to do is to not feed anything for a week. Give them water. This will stop the fever. Hunger is the best cure for almost any disease. Not only that, but a sick bird or person has no desire to eat, and if forced to eat while sick it is very dangerous.

Mash food also causes roup. Mash fed to poultry overloads their whole system, causes disorders and indigestion, fever, and if in winter the fever brings on a cold, then roup gets into the flock.

To prevent roup, feed a variety of grain, and give them free range. Give them lots of outdoor exercise and sun. Keep the house clean and open every day for air. Throw the grain in straw and keep them scratching.

To prevent frost on the walls of poultry houses air it well and don't close it up tight.

Birds in the air never have roup or colds. They are not housed nor fed on high rich foods and are out in cold, rain and snow.

Above all, don't overcrowd the house with hens and don't keep 1,000 in a house, even if it is 1,000 feet long and

fifty feet wide, because it causes dampness and frosty walls, from the moisture of their breath and from the manure.

If a hen is out doors and roosts on trees the year round she is the healthiest hen of the bunch. She does not breathe and re-breath in the same foul air over and over again, and is not crowded on the roosts. It is natural for them to roost on trees. A chicken was originally a wild jungle fowl and wants free range and the sun of the ranch at all times.

How to Make Them Lay in Winter and Still Have Natural Ways.

Now to come as near to nature as possible and make them lay in winter, have a shed open to the south for them to scratch in and throw a load of horse manure near the house. You will see how they will scratch and dig for the oats, etc., in the manure. It also keeps their feet warm. One load of manure will heat up and keep warm for weeks. Then give in straw; feed green cabbage and fresh cracked bone cut with a bone cutter. Now in feeding bone, feed only twice a week, say one pound to fifty hens at each feed.

A dust box must be in the house near the window. Put coal ashes in the box and you will get eggs in a way that will surprise you, if they are early hatched pullets. Don't fence them in at all.

Cholera....The Cause.

This disease is feared among all farmers and poultrymen There is not much cholera in poultry nowadays. But it was all the go some years ago. They don't keep the hens fat like they then did, and they don't feed them three times a day. In summer don't feed hens at all. Corn is very heating and fattening. The two causes for hens getting cholera is that the fat hen cannot stand the heat, and corn burns them up inside, cooks and boils the food in their stomachs, dysentery, yellow, watery droppings, which look as if mixed with sulphur, getting green after the bird has been sick a

CHINESE LANGSHANS.

POULTRY BREEDING STOCK.

few days. In summer, say July, stop feeding corn and keep them thin. Give them oats and wheat and always keep lime in the water. Give them all the grit they want and let them roost out doors. A lot of fowls in a small house in summer makes it very hot for them at night.

If you have some sick with cholera, give them a mash with strong red pepper in it twice a day for a few days, and put iron and alum in the water.

Fowls should not be fed much in the summer, lots of range and green food and water, fresh and clean kept in a cool place will prevent cholera every time. The wild birds do not have cholera because they do not get too much corn, nor are they fed too high. They have to look for their food and thus are never overfed. A hen will never starve in summer on a farm; she finds all kinds of feed and fifty hens on a farm about a house need no food given to them at all, but 100 or 1,000 hens need some, because there is not enough for them all. But if they are out on the colony plan, a house every 100 yards all over the farm they will be spread all over the farm and will not run over the same ground and thereby each getting their share.

Chicken Pox.

This is caused by overcrowding in one house, the bad air and foul heat in a close house. Don't let a lot of young chickens go in one house. Divide them off and have a coop with roosts in a house say 4x4 feet, 4 feet high, and keep thirty or forty in a house like this, with a front covered with poultry wire. Close it up every night to keep out night prowlers, such as skunks, minks, cats, dogs, etc.

Scabby Legs in Poultry.

Cause: Dirty, filthy houses and roosting places. Lice get under the scales and play havoc with the legs. Lard and sulphur mixed and rubbed on thickly, will be of great help

and make the legs nice and smooth. This should be rubbed on three or four times. Keep the roosts well oiled with kerosene to keep off the lice. You will find millions under the roost poles.

Egg Eaters.

Nests should be in a dark place and so low that the hens cannot stand up in the nest and pick at the eggs. Keeping the hens scratching in straw will prevent egg eating. Close confinement causes this trouble.

Feather Eating.

This is also caused by close confinement, and being penned in a yard with nothing to do. Give them free range. Free range is what is wanted by poultry. If they are yarded up they get into all sorts of trouble.

Pip.

This is caused by overcrowding and old runs, where fowls have been kept for years. A new location is a preventative. Gapes is also caused by filthy quarters. Put lime in water, and also throw air slaked lime in the houses and all over the poultry. Do this at least once a month. To all poultry, if not sick, lime, air-slaked, in powdered form, is the best disinfectant there is. It sweetens water, houses, and prevents lice and dampness.

Gasoline is the best lice killer, sure and safe to old and young poultry. It never disturbs them nor makes them sore, nor will it kill them. Spray it all over them with a sprayer, but be careful not to have a lamp or a match near it.

Never hatch late chicks. Anything hatched after June 1st is not worth having. The late hatched chicks never will amount to anything. In the fall they are small and puny, and liable to diseases and colds, because they are not full feathered and not matured.

A Warning to Poultrymen....Cause of Roup in Young Stock.... Raising Young Stock.

The poultryman must be very careful about housing young stock after they are six weeks old. They are out of the brooder and need no more heat. Now, most breeders put barrels and boxes all over the place for them, and thirty to fifty crowd into one box or barrel. This is very dangerous. They sweat at night, come out in the wet dew and cold air at four o'clock in the morning; they catch cold and their eyes swell up; they get thin and make a noise in the throat as if they had a frog in it. They die of consumption because they are in a hot, tight box, and sweat all night, and the air is not pure. They breathe in and out the same breath, which causes weak lungs, consumption, colds and roup. You must provide an open shed for them with roosts and don't let them crowd all night. The open shed with an open front and a good tight roof, is an ideal house for them, and you will see the difference in stock. You will see them grow like weeds. We make a combination roosting coop and brooder for this purpose —two floors, the first being eighteen inches high, and the second three feet high. On the lower floor is a mother, the same as in a brooder, but without any heat. This floor is for chicks when six weeks old. They need no more heat when that age in the spring, so they are put in this brooder underneath the coop. When they are ten weeks old they are put up on the upper floor on the roosts and slats placed over the doors to second floor to prevent the older chicks going into the lower floor. You can then put younger chicks in the lower floor again where the round mother with the cloth is. If fifty chicks are put on the lower floor their own animal heat will keep them warm, and it is so arranged that the ventilation is perfect and the chicks cannot sweat nor crowd. On the upper floor thirty to forty chicks can roost with ease ; up to four months old and after that thirty is plenty. That number can stay in the coop until snow flies. You should have ten to forty of these

coops all over the plant, depending on how many chicks you are going to raise.

They are the best coop on the market in this line, and are worth twice what they cost, if you want good, large, healthy pullets to lay, and want to win in the shows. They are rat, cat, mink and water proof.

They should be made of No. 2 pine flooring, and will last for years. They weigh about two hundred pounds, and can be shipped from St. Charles to almost any point within one thousand miles for one dollar. We can ship them from here in knocked down condition, with the different sections put together.

We sell these coops complete for $15.00, ready to ship. On orders for half a dozen we will pay the freight anywhere in the United States.

These coops were invented and made on our ranch by John M. Sontag.

The blue prints show the construction of the coops, and any one can make them for themselves. The cost will be about the same as if ordered from us direct.

The Best Poultry for Market, for Meat and for Eggs.

After twenty-five years of practical experience I have found the best poultry for market, meat and eggs at any age from six weeks to two years to be as follows:

The best layers on record are the Black China Langshans. I have tried over seventy-five of the best breeds known. If you want eggs when it is twenty below zero, you can have them if you keep Black Langshans and have the egg laying strain. Not all the breeders have this strain and it is a matter of years and experience to breed them for laying. I have Langshans that averaged 209 eggs each per year and I breed from them only. I have also two pullets that have won the worlds record in the show room. They are winners as well as layers. I breed for both.

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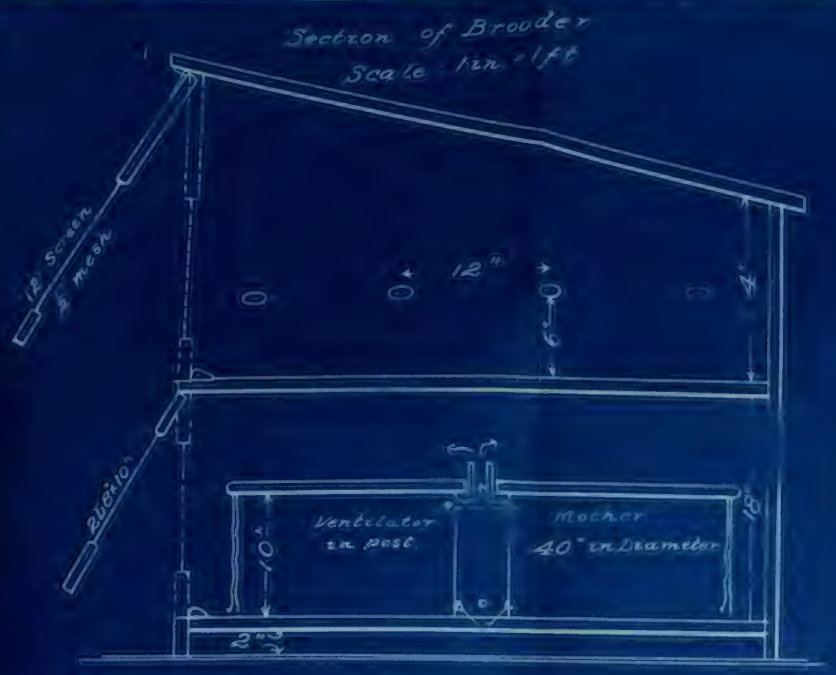
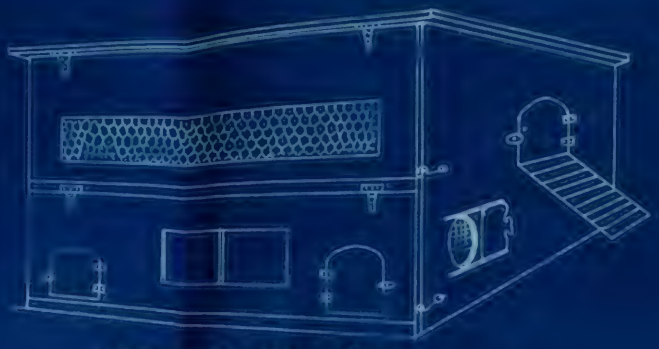
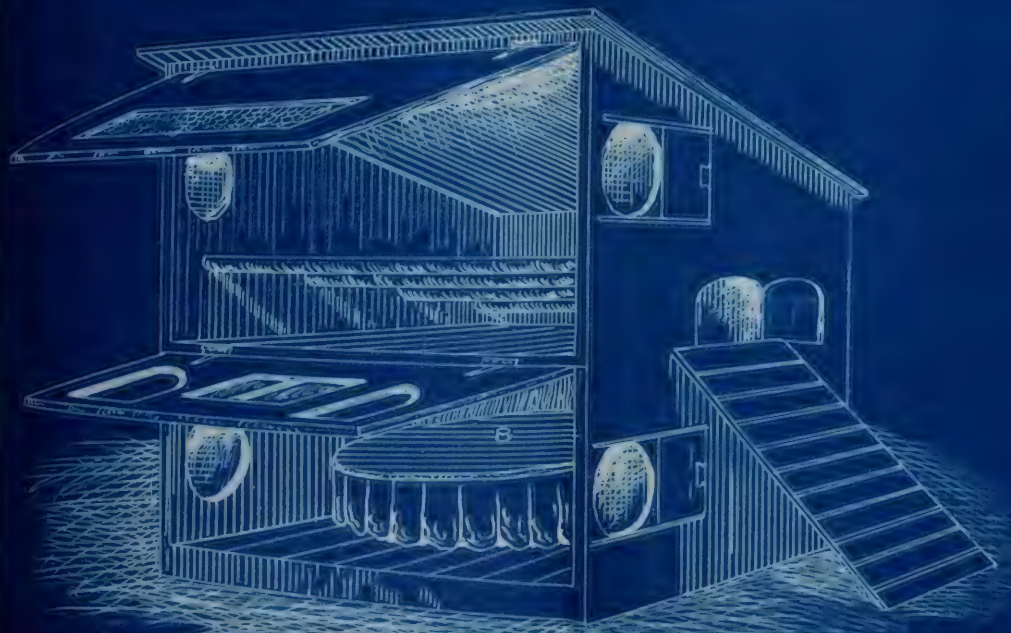




Closed for the Night

Post 4" sq. corners rounded top 1" in diameter Bore ½" hole down through center and 2 cross holes below mother for ventilation



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Combination Brooder and Roosting Coop.

When chicks are six weeks old, put them in this brooder on lower floor. The mother on post will keep them warm without artificial heat. When the chicks are 8 to 10 weeks old, teach them to go up on second floor. 25 chicks may be placed in the lower part until 10 weeks old, and 50 in the upper part after that age.

The coops are constructed of flooring, the lower floor being 2" above the ground.

Place slats over doors to lower part to keep out older chicks, and wire over ventilators to keep out rats, &c.

The coops should be placed in the field and spaced about 100 yards apart.

Screen should always be open except in very cold weather, as chicks must have lots of fresh air.

Practical Points of a Langshan.

A Black Langshan fowl is the best mother. Why? She is very careful with eggs and her chicks. She will take them of any age and size and mother them, even if they are not her own hatched. She is not always looking for a fight, but is very gentle and tame. They do not set like other large fowls. Only once a year they care to set, while others want to set all summer and are willing to try to hatch stones or their own feet.

They lay the year round, and when my wife wants eggs she goes into the Langshan house for them. This she can not do with any other breed. I will put them up against any other breed in this country. Some people think the Leghorn is the best layer. This is a great mistake. Keep account for yourself which is the best. I have kept egg records for ten years and know whereof I write. A Leghorn will lay eggs like the old harry for a while, especially when every other hen lays, but when it comes to laying in the winter she is behind every other breed. She lays eggs when they are eight cents a dozen in the stores, but a Langshan will lay when they are thirty and forty cents a dozen, and when eggs are twenty-five cents in the fall the Leghorn is moulting, but the Langshan is laying right along through the moulting season.

Some say that the Langshan has black legs and black feathers and does not sell good or dress well. How about a turkey? Have they not black pin-feathers and is not their meat good? A Langshan is better eating than a turkey. The French cooks always prefer a black fowl, because they say the meat is juicier, sweeter and finer in bone and skin.

A turkey has black legs, so has a Langshans, and the meat is extra good in both. The best Black Langshans come from the cold northern part of China, and are hardy and stand the cold climate better than any other breed. You must introduce the Langshans to your market. In fact, I

never need to sell them to the market for meat, as I cannot raise them fast enough for breeders.

I get $5 to $15 each for cockerels and $2 to $10 for hens and pullets. Eggs I sell at $2 to $5 per thirteen and the hens lay well up to three years of age. When other hens lay only forty eggs a year a three-year-old Black Langshan will lay 100 or more. Now this is a matter of experience and record. No prouder fowl lives. They are fine appearing with their glossy black feathers and the green sheen admired by all who see them. They weigh from eight to eleven pounds when one year old. If you want to make dollars and cents the year round try them.

What One Hen Can Do.

She can clear you $10 a year. This is how it can be done with fifty hens. One pure bred hen, bred for laying will lay over 200 eggs a year. You can sell one-half of the eggs for the market, because in the fall and winter you cannot sell eggs for hatching at any price, because nobody hatches chicks at that time of the year.

Now we will set all the eggs this one hen lays between February and July. This gives us say 150 days for her to lay 100 eggs. This she can do if she is from a laying strain. Those 100 eggs set under other hens while she is laying, and if she should want to set break her from it, and in a few days she will go to laying again. Now set all the eggs she lays, 100 of them, and seventy-five will hatch chicks, and say you raise only fifty of them. Now, those fifty will sell for twenty-five cents each on the market when they are three months old on the average. Fifty chicks at twenty-five cents each is $12.50. The cost to feed the hen and these fifty chicks is, say $2.50. This makes $10 net over all costs for one hen, without considering the eggs sold in the fall and winter. If you sell the chicks when six months old you get more for them. If you have good stock and advertise it you can sell them from $2 to $5 each and make $100 clear on

each hen. This has been done a great many times and hundreds can prove it.

Now, fifty hens treated the same way can do the same; but this is where the trouble comes. Why? Because you do not give them all the same care, and range, and show. This you must do or you cannot make $1.00 net on each hen. You must work for it the same as in any other business.

The best all around chicken for the market is between the Rhode Island Red and the Buff Wyandotte. The best layer of the two is the Rhode Island Red, and as for the market, it is six of one and half a dozen of the other. The Rhode Island Reds are next in laying to the Langshans. They are better than the Buff Wyandottes or any other breed. They are hardy and have always been bred for layers, and had to rough it for wild fowls. This breed originated in Rhode Island, and farmers down there have quit fancy stock and have gone to egg farming. Some keep as many as three thousand hens, one hundred in each house, one hundred in each house on the colony plan. They are never yarded and are always on free range. They are used to all manner of rough life, cold, wet and dampness. As the entire state is low and wet, it does not affect them, as they are accustomed to it.

Egg Farm Pays.

My advice is to go in the egg farm business and have houses all over the farm. Don't crowd; fifty in one house is plenty; and if on free range the year round you can at least net $1.00 each from each hen; and if you have one thousand hens you can make a good living at small cost. Say twelve houses, 12x24 including shed, as per blue print. Each house will cost you about $25.00, and are good for twenty years if kept in repair. You don't want anything better and easier than this. You don't have to bother with fences and gates, long, expensive houses, separate pens and troughs for each twelve hens. You can get twenty-five cents per dozen for your eggs the year around at private houses and hotels and

clubs and banquets. A forty acre farm is all you will need, with the houses one hundred yards or more apart.

Fertile Eggs in Winter.

It is impossible to get a good percentage of fertile eggs in winter, and those that are fertile hatch weakly chicks. It is against nature to hatch them in winter. The eggs will be most fertile in April and May, and that is the time when the wild birds commence to hatch their young. It is only a waste of time to hatch in winter. The best time is in March, April and May. The chicks will do well then, because they will have the outdoor air, live in the grass, and will be busy looking for bugs, worms, etc. The warm air and sun makes them grow and do well. Only a small percentage of them will die at this time of the year. Don't try to go against nature. You will fail if you do.

When you save the eggs for hatching, feed corn and oats. Corn makes strong, rich, yellow yolks, and the chicks will be strong. Fresh cracked bone fed to the hens at this time will help to make them lay fertile eggs. Feed this cracked bone only twice a week, and only one to two pounds for fifty hens. The fresh, raw meat and bone causes worms, and liver diseases, roup and distemper, if you over feed.

Fattening Poultry.

To fatten for the market you should have them in good flesh, and it will then be easy to fatten them. Feed them on cooked cornmeal and buckwheat. Mix charcoal in the feed. Cooked beans are good flesh producers, and a little oil meal should be mixed in with it. Never over feed, and the first few days give them only half enough to eat. Then for the rest of ten days, feed them heavily, but never leave any food before them. Fatten them only twelve to fourteen days. If you fatten them any longer they will get sick and run down.

CHINESE DUCKS.

Birds and Nature.

Remember that the wild birds are out in all kinds of weather, cold, ice, snow, and they don't have colds or roup. They roost in trees, and not in a bad smelling house. They always have fresh air, and the bad air from their droppings never reaches them. They are not tender, like a hot-house plant. They gradually get used to the outdoor life. They never overfeed and are never fed on all kinds of egg food to make them grow and lay. They have to look for every seed they get, and work for it. Flying is exercise for them. Their eggs always hatch. You never saw an unfertile egg in a bird's nest. Nature will do more for fertile eggs and health for poultry than all the truck you can possibly feed them. If a poultryman reads the analysis of foods, and follows the directions of those professors, doctors and would-be experts on these lines, he will get into trouble. A hen at liberty finds a great variety of food and is always healthy. She will lay a lot of eggs, and almost all will be fertile.

A hen in confinement will worry, and all the food you give will do no good. Half of them will be sick, and a third of the eggs will not be fertile. Those that are fertile are weakly and sickly chicks when hatched.

A hen that steals her nest will most always hatch every egg and she can care for the chicks without any food from man at all up to three weeks old. This I know to be a fact, and I seldom water or feed the chicks, and they are as healthy as prairie chickens. Wet grass and rains do not bother the hen, she will care for them right out in the open air, the same as other birds. This ought to be a lesson for those who are in trouble with poultry. Follow nature, and follow as closely as you can. Don't heat your hen houses, or don't heat your brooder houses after March.

If you want to raise chickens in December, January and February, keep the house just above the freezing point, have sand on the floor and give them all the air possible. Have a pen with straw in it to keep them scratching for the grain.

Don't force their growth. You have probably seen a hot house plant or vegetables grow up high, and before they reach maturity, fall over, the stalk not being strong enough to keep it standing. So with chicks, they get weak legs and cannot hold their weight up. Then too, a hot house plant grown in winter and put out doors, even in mild weather, will lie down and only the best care will keep it from dying, because it is not used to the outside air. But if the the hot house plant had had outside air from the beginning of the sprouting, it would stand all kinds of exposure. So with chicks, you must get them used to the outside air at the start, and then you will be successful. I have tried many ways to care for poultry, and find that all the food on earth is no good if you don't give them air, sun and free range. Never yard them up after they are a week old. It pays to let them run, and you will not be bothered with diseases.

I will if necessary visit all who read this book and fail, regardless of distance and expense. What others do, you can.

I will close this little book and say this: Don't judge the value of the book for its size, but consider the contents. A book ever so large is of no use if it is not a practical one. Further, a great deal of information can be gotten out of this book if directions are followed. If at any time you are stuck, write me. There is no such book written on poultry and you cannot help being successful and make it pay for the market.

The blue prints are also original and from my own plans and they will save you a lot of money when building poultry houses. If you cannot make it successfully with these instructions you will fail in any other business. Dozens are now doing well with my advice, and have paid well for the instructions by letter.

Fruit Trees and Poultry Great Money Makers.

These two go well together and a sure crop is assured every year. Poultry are money makers every year, but

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fruit trees do not bear a full crop, as the trees rest a year. Fruit does better when the poultry are among them because the chickens get all the worms, bugs and insects that would otherwise ruin the fruit and trees. The only place where plums do well is where poultry is plenty, as they kill all the culture worms and other insects.

How to Plant Trees and Have Them Do Well in Any Soil and Climate.

For a forty acre farm buy the trees in a nursery in your own state, because you know then that they are acclimated. Order them early in the spring, and just as soon as the frost is out of the ground dig holes forty feet apart for apples, twenty-five feet for cherry trees, twenty feet for plum and pear trees and other trees that do not branch out too far. The idea is to get them far enough apart to get air and sun when they are ten to twenty years old. While the apple trees are growing you can plant plum and cherry trees between them and when the apple trees are fifteen to twenty years old, the cherry and plum trees will die out from age. In this way you use up all the ground possible. This is the best place on a farm to raise poultry. They manure the land and keep bugs and worms off the trees. It is a good place for shade and is better than in the woods, as there are no hawks or other animals to bother them. The thick woods hide the hawks, crows and animals which pray on the chicks, while the orchard is free from them.

When and How to Plant Fruit Trees.

When your trees come put them in a cool place and pour water over the roots. Do not plant them on a dry warm day when the sun shines, as the roots are very delicate and will die if exposed to the sun. The best time to plant is after four o'clock in the afternoon and before the sun is too high in the morning, say seven o'clock. You should have plenty of help to plant your orchard and do it right.

The trees are best at three years old, or five to six feet high, strong and at least two inches in diameter near the roots. If you buy them by the thousand you can get them for about ten cents each. When you plant them cut off all the broken roots and trim all the branches almost like a whip. This will put all the strength in the roots where otherwise it would be in the branches, and the tree would die when hot weather came on. In planting, put in two handfuls of wet oats around the roots. This will start the fibre roots and you will be surprised to see the trees grow. The oats sprout around the roots and this starts the tree roots to grow. Don't fail to do this. Now, if you have no black loam on your orchard, haul some in and throw a few shovel fulls in each hole after the oats are around the roots. Put in a little fruit and root crop fertilizer over the black soil, stamp the ground hard over the roots so no air can get to the roots, then shovel in the rest of the soil. Water each tree if the soil is dry. If the soil is wet it is not necessary.

Mulching Trees.

When the tree is planted, heap up the soil around it, put straw or wild hay around the tree, and put stones on the straw to keep it from blowing away. The straw prevents the sun and air from drying out the soil at the roots. It is impossible to grow fruit trees unless you do this. Trim the trees down like a whip, this is one of the secrets of success. You should also cultivate them at least six feet on each side of the trees. Run a plow on each side and then harrow it level. Do this three or four times every summer up to August. You must cultivate trees to make them grow quickly, and it will surprise you in a few years to see those ten to twelve foot trees bearing fruit. Plum trees will have fruit two years after planting, peaches in two years, cherries the fourth year and apples in six years. To get peaches, trim the branches down for three years to get a good trunk, then let the branches out. In Indiana, Illinois, Michigan and Wisconsin, it is customary to mulch the trees heavily

with straw in the fall, about three feet around and a foot deep, and keep it there until May 15th. This prevents the tree from blooming too early.

Most of those who start in peach farming have either the flowers or fruit frozen and the consequence is no peaches. Now, if you mulch them heavily to keep the ground cold around the tree and keep the frost from coming out of the ground, the tree will not start growing until after the danger from frost is over. Peach trees will bloom early in April if care is not taken, while they should not bloom until May 15. By doing this you will be certain of a crop. It will also pay you to rope them up with straw or old bags. This will prevent the frost killing the trees. Where the snow is deep in the winter it is not necessary to do this, but where there is not much snow it should be done. Snow is about the best protection from frost we have, especially for young trees, clover, grass, etc.

When trees are six to eight years old, no more cultivation is necessary. Peach trees bear very little fruit after eight years old, but other trees are good for many years if properly trimmed every year.

Spraying Fruit Trees.

Spray the trees when the buds are ready to bloom, and again ten days after blooming. There are thousands of small flies that injure the flowers, by and spraying it will kill them, and they will not go near a flower that has been sprayed. Any nurseryman will tell you just what liquids to use for spraying, or the Government will send you a small circular on spraying for the asking

Poultry in the Orchard.

Every one hundred feet have a small house to hold fifty hens. Have these colony houses all over the orchard. The young stock should also be raised in the orchard, as the shade

is good and the cultivated ground furnishes an excellent scratching place for them,

The best fruit soil is a sandy clay loam, with gravel underneath, say three or four feet. This furnishes a natural drain. The trees should be planted on a ground sloping slightly to the east, except for peaches, which should be planted on the north or west slopes. This slope does not warm up as quickly in the spring, and so holds back the growing until the danger from frost is past. It is also cooler in the summer, and the shadows are longer, so the soil does not dry out as fast.

Wild plums do best in a low, wet place, near a river or swamp.

An orchard when in good bearing condition will bring in from two to three hundred dollars per acre if well cared for. Care and work will make it pay. One hundred hens will do well on an acre and bring you in one hundred dollars net after paying for all the feed, if the eggs are sold at store prices. If they are sold for fancy prices, for show and breeding stock, one hundred hens will make a thousand dollars an acre. You must advertise your fancy stock, however, to make sales.

My advice would be to work the two together, and thus make the best use of the land. It will pay one hundred per cent better than corn or oats, and is less work. Fruit always brings a good price if it is A No. 1, but if not first class it is not wanted at any price. Hundreds of farmers do not care for their trees, never go near them, and in the fall the ground is covered with apples, worm eaten, while if they had cared for their tree, cultivated them and sprayed them, they could get from two to five dollars per barrel for the apples. Baldwins, Ben Davis, Russets, North Star apples sell like hot cake at good prices.

Looking for a Manager.

If you intend to go into the poultry and fruit business on a large scale, it will be necessary to consult a practical

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man who understands it in all its branches. The whole secret lies in starting right, in location of farm and buildings, the selection of the proper poultry for the market, and eggs, and a dozen other points.

Thousands fail in not starting right. They invest ten to fifteen thousand dollars in buildings, machinery, boilers, etc. I can start you right, having had years of experience, and having started ranches, east and west, from the foundation. I have plans of my own, original and up-to-date. They show buildings which are cheap, handy and practical, for the health of the poultry. These blue prints and plans are the best on the market today, and I can save you several thousand dollars in starting. After you are started any one can make it pay, if this book is followed, and you need not pay an expert one hundred dollars a month to manage it for you.

The best time to start is in July or August, not later. Never start in early spring or late fall. I will start you out right, and will go anywhere in the United States or Canada for the small amount of five dollars per day and expenses. I will guarantee to start you right, that you will have the best plant in the country, and that you cannot help but be successful.

For twenty-five dollars I will correspond with parties by mail, make plans and give you directions which will help you greatly, and will save you a lot of money in the end. Don't make the mistakes others have.

Thousands make a good living from poultry, and what others do you can do, at half the expense, with my directions.

I can come to start a plant for you at any time between June first and October first, or will correspond with you at any time.

Respectfully yours,

JNO. M. SONTAG.

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